Environment Council of Alberta

1982 ANNUAL REPORT

Alberta
ENVIRONMENT COUNCIL OF ALBERTA

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LETTER OF TRANSMITTAL

Lieutenant-Governor in Council
Legislative Building
EDMONTON, Alberta

Honorable F. Bradley
Minister
Department of the Environment
222 Legislative Building
EDMONTON, Alberta

Sirs:

I have the honor to transmit herewith, the Annual Report of the Environment Council of Alberta for the year 1982 as required by Section 7(1)(h)(i) of The Environment Council Act.

I have the honor to be Sir,
Your obedient servant,

A. D. Crerar,
Chief Executive Officer

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1. MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

The highlights of 1982 for the Environment Council of Alberta were the release of the report and recommendations of the public hearings on noise in Alberta, and the launching of the information program preparatory to the public hearings on the maintenance and expansion of the agricultural land base in Alberta.

Noise is a unique type of environmental pollution. It is localized and non-transportable, unlike air or water pollution. With sufficient distance between the source and the receiver (the ear), it dies away completely. This means that the effects of noise pollution are acute for those unfortunate enough to be close to noise sources; for example, those living under flight paths, along truck routes, or in flimsy apartments where every rustle or flush intrudes.

For the majority of people, those in quiet residential districts or in rural settings, there is no problem. That means that noise tends to be overlooked, ignored, or downgraded. However, noise is also a pollutant whose footprint widens and intensifies with every additional truck, car, and traffic route; aircraft flight; or noisy machine. It is associated with urbanization and industrialization, and seems to be an inevitable accompaniment of development. In that sense it represents a classic case of incrementalism. The background noise in our cities has increased steadily and yesterday's quiet residential community becomes tomorrow's neighbor to an arterial routing.

Noise is also a pollutant which is much more effectively and efficiently prevented than cured. Careful preplanning and design, separating uses, and choosing quieter rather than noisier equipment are all effective in reducing noise levels. Attempts to solve noise problems after they occur are both costly and usually not terribly effective.

In Alberta we are sufficiently early along the path to urbanization and industrialization that if we take a little care we can avoid most of the problems of noise pollution. The recommendations of the Council with respect to noise pollution recognize these basic characteristics, and focus on preventive actions such as education and planning to make people aware that noise can be avoided and quiet maintained, with an emphasis on the consideration of noise in the approval of subdivisions and the design and location of highways.

Though noise is by nature primarily a local problem, provincial leadership is necessary to ensure that the noise implications of new development have been considered, by setting an example in developing provincial facilities such as highways and parks, and by identifying quiet as one of the objectives of the Alberta of tomorrow.

To provide a focus for provincial concerns about noise – those who deal with noise concerns are now scattered through 18 departments – a Quiet Communities Directorate was suggested by the Council. Though the unit suggested was small, less than 10 people, 1982 was not the best year to be proposing additions to government. However, unless we believe that Canada in general, and Alberta in particular, are going to be in for a long continued major depression, the time to begin organizing for the post-recession period is now. It may have seemed foolish in the midst of World War II to begin planning for post-war reconstruction, but we did. The result was a smooth transition to the post-war period, a solid base that provided firm support for Canadian development for 25 years. In that sense this pause in growth and development is the time to prepare for its resumption. And one of the inevitable accompaniments of the resumption of growth will be an increase in noise. It is both the best and worst of times to be concerned about noise, the best to accomplish it and the worst to have the will to do it.

The second highlight of the Council's year was the preparation for the public hearings on the maintenance and expansion of the agricultural land base. The intention of information meetings and the Council's publications is to provide interested people with a solid background on the nature of the problems associated with the maintenance and expansion of the agricultural land base. The Council's publications are not intended to provide answers, but to make people aware of the factual background and to raise questions that people might respond to in their presentations to the public hearings.

The publications are intended to work at several levels. The summaries are short, colorful, well illustrated, generalized but accurate introductions on a particular subject. They will provide the general reader with an introduction to the problem, without going into great detail.

The reports are more exhaustive treatments of a subject. Some are quite technical and are intended to provide the concerned reader with a reasonably detailed look at a particular problem. They are not exhaustive but they do contain suggested reading lists or reference lists for those who wish to explore the subject further. Because the hearing topic has so many different facets – the demands on the land base made by urban and industrial development and by wildlife and recreation, and the question of the degradation of soil through salinization, acidification, and erosion – we anticipate that many people will wish to submit detailed briefs on one particular aspect of the topic, be it rural subdivision or dryland salinization. The detailed reports will provide those interested in the particular subject with basic information that should enable them to develop a better brief for the hearings, if only to point out where the background material is in error or where conventional views of the problem are inadequate.

For those who wish to address the overall topic, the summaries are sufficient. They provide an overview of the different aspects of the topic. We hope they will also provide, for those whose major interest lies in a particular aspect of the problem, a feeling for the total context and complexity of the subject.

The summary, *Maintaining and Expanding the Agricultural Land Base in Alberta: Terms of Reference and Background Information,* by Peggy Thompson, attempts to pull together all aspects of the problem in one slim report, to consider them in relation to each other, and to speculate about what the future impacts of those forces leading to a reduction in either the amount or the productivity of the agricultural land base might be. It also attempts to identify the opportunities that exist for the expansion or the enhanced productivity of the agricultural land base.

The conclusion of this summary encapsulates the overall objectives of the upcoming hearings and the response that the Council hopes to evoke from the people of Alberta:

> *The situation that has been sketched in this report, and outlined in greater detail in other reports in this series, may meet with three basic responses:*
>
> 1. *Decide the problem doesn't exist, that the problem is exaggerated, inaccurately described, or alarmist.*
>
> 2. *Decide the problem exists, but that the solution is to be found on the supply side. This would lead to the expansion of land used for agriculture through increased irrigation, possibly involving water diversion, through drainage of muskeg lands in the north, and through conversion of forested lands in the north; and the increase in productivity on the remaining land base through increased use of fertilizers and pesticides, through use of improved plant varieties, through reduction of summerfallow, and through the use of unimproved land.*
>
> 3. *Decide the problem exists, but the solution lies on the demand side. This solution would depend on agricultural zoning, strict subdivision control, increased urban densities, and some attempt to stabilize the cost of agricultural land. It would look for solutions that reduce the rate of salinization, nitrogen and organic matter loss, and wind and water erosion. It would also look to ways to slow or reduce the impacts of industrial development or transportation development and land disturbance.*

The only approach that should be rejected outright is the first – to decide that there is no problem or that it is too soon to begin worrying about the problem.

Neither one of the other two approaches is sufficient to meet the problem. A combination of both, attempting to increase supply and to reduce demand, will be required. In addition, the approach should be compatible with other uses, such as recreation and fish and wildlife habitat. The exact combination of elements will depend on the particular conditions in Alberta and the views and attitudes of Albertans.

It is for this reason that public hearings on maintaining and expanding the agricultural land base are being held by the Environment Council of Alberta. We need to obtain your views on the approaches that should be adopted and the balance that is appropriate to secure Alberta's agricultural land base.

1982 was a year during which in many parts of the world the care and concern for the environment receded as an objective for citizens and governments. This accusation cannot be levelled against either the people or the government of Alberta. Public opinion polls reconfirmed that the people of Alberta hold their environment dear, that they do not wish to see any relaxation of standards, and that they wish to see the land of Alberta treated with the respect that it deserves. So, too, with government. Though it did not move as far or as fast as environmentalists would wish, its record for enforcement of environmental regulations and standards in 1982 was better than in previous years.

Much of this improvement was due to the more vigorous action of the Minister of the Environment, the Honorable Jack Cookson, in support of environmental conservation. A turning point in Mr. Cookson's approach to environmental protection was marked by his support, at the Environment Council's annual joint meeting in Grande Prairie in late 1981, of the objective of holding SO_2 emissions in the year 2000 to the levels of 1980. From that point on through 1982 a number of actions visibly illustrated his desire to protect the quality of Alberta's environment. This was Mr. Cookson's final year in office; he resigned and did not stand for election in November of 1982. The year ended with a new minister, the Honorable Fred Bradley, designated as the Minister of the Environment. It is the Council's hope that the new minister will take up where Mr. Cookson left off, with no slackening in the care for the environment.

There is a temptation in hard economic times to relax environmental standards – you will hardly notice a little more pollution of the air, the water, or the land...

a standard that has been found to be deficient should be retained a little while longer; it would cost too much to change it now. However, that's how we got into the problem in the first place, every little addition of pollution did not seem to make much difference until we realized that the environment had deteriorated to an unacceptable level. Over the past decade we have struggled back from those intolerable conditions in many areas, though much remains to be done. As suggested earlier for noise, this is the time when we should be preparing for the resumption of growth and development by re-examining our standards and approaches to environmental protection, and that will be one of the major tasks of the Environment Council in 1983.

2. POLICY AND PROGRAM REVIEW

The Council...
...shall conduct a continuing review of policies and programs of the Government....

Section 7(1)(a), The Environment Council Act

2.1 INTRODUCTION

The Council is required by the Environment Council Act to carry out an ongoing review of government policies and programs. This is accomplished by several means, including the public hearing process with the subsequent report and recommendations, investigations by research staff, and through the retention of consultants on some issues.

In 1982, the Council looked at two major areas of policy: noise pollution and the use of the agricultural land base. Several smaller projects were also included in the year's work.

2.2 COMPLETED POLICY AND PROGRAM REVIEWS

2.2.1 Noise

Environment Council hearings and subsequent reports and recommendations always include a substantial review of existing policies and programs relevant to the hearing topic. This was true of *Public Hearings on Noise in Alberta: Report and Recommendations.* Details of that review are available in the report and are summarized in Appendix A of this annual report.

2.3 ONGOING POLICY AND PROGRAM REVIEWS

2.3.1 Maintenance and Expansion of the Agricultural Land Base

Early in 1982, the Environment Council received the Order-in-Council which established the terms of reference for public hearings on maintaining and expanding the agricultural land base in Alberta.

In preparation for the hearings, the Council has prepared considerable background information. The information base which was developing in 1981, was added to in 1982. The reports and summaries released in 1982 were as follows:

Reports

Urbanization of Agricultural Land (P.S. Thompson) discusses recent conversions of agricultural land to urban uses, in both urban and rural areas. Issues related to urbanization are raised. 77 pages.

Rural Subdivision in the Edmonton, Battle River, Red Deer, and Calgary Regional Planning Commissions, 1977-1979 (P.S. Thompson) presents detailed data in tables. A summary of this report and a more general discussion of the effects of rural subdivision on agriculture may be found in the report *Urbanization of Agricultural Land.* 153 pages.

Irrigation Agriculture in Alberta (Staff Report) describes present irrigation in Alberta, environmental problems associated with irrigation, prospects for increasing the acreage of land under irrigation, and alternatives for increasing the necessary supply of water. 74 pages.

Dryland Salinity in Alberta (J. Lilley) discusses problems of and solutions for dryland salinity, and examines what is being done and what might be done to control the spread of salinity in southern Alberta. 39 pages.

Soil Fertility and Land Productivity in Alberta (W.B. McGill) is a technical research report which discusses in detail the effect of various physical factors (for example, topography, soil depth, and soil acidity) on soil fertility. The impacts of agricultural activities such as tilling, fertilizing (including sewage effluent irrigation and sludge disposal), and liming are also investigated. 123 pages.

Fisheries and Wildlife Resources and the Agricultural Land Base in Alberta (W.M. Glasgow) discusses the fish and wildlife resources of agricultural Alberta. Topics covered include modifications to fish and wildlife habitat caused by agricultural practices, the value of fish and wildlife as sources of recreation, and techniques to overcome management problems and maintain fish and wildlife resources in agricultural areas. 65 pages.

The Economics of Agriculture in Alberta: Selected Issues (M.L. Kelly and E. Moreau) provides background information about several important and controversial issues in agriculture, including the value of agricultural land, agricultural development in the Peace River region, the cost of agricultural inputs, farm income, grain handling and transportation, and marketing boards. The importance of economic considerations in maintaining and expanding the agricultural land base is emphasized. 148 pages.

An Analysis of Legislation Affecting Agricultural Land in Alberta (J. Lilley) reviews provincial legislation, policies, and programs which are aimed at protecting the quality and productivity of Alberta's agricultural land. The report also discusses legislation and programs which affect land ownership, the conversion of agricultural land to non-agricultural uses, and the expansion of agriculture. 25 pages.

The Impacts of Linear Developments, Resource Extraction, and Industry on the Agricultural Land Base (C. Webb) discusses both direct and indirect impacts on the agricultural land base, relevant legislation and policies, and the feasibility of alternatives which could mitigate impacts. Three of the areas investigated are coal mining, oil and gas exploration and extraction, and power transmission lines. 87 pages.

Summaries

Agriculture and the Environment: Summary (K. Sanderson) summarizes a detailed report on this topic (*Agriculture and the Environment*). It highlights topics such as the ecology of agriculture, effects of agricultural practices on the environment, effects of external factors on agriculture, and environmental legislation affecting agriculture. 9 pages.

Urbanization of Agricultural Land: Summary (P.S. Thompson) summarizes a detailed report on this topic (*Urbanization of Agricultural Land*). It briefly discusses recent conversions of agricultural land to urban uses in both urban and rural areas. Issues related to urbanization are raised. 10 pages.

Irrigation Agriculture in Alberta: Summary (K. Sanderson) summarizes a detailed report on this topic (*Irrigation Agriculture in Alberta*). It presents highlights of the present irrigation in Alberta, environmental problems associated with irrigation, prospects for increasing the acreage of land under irrigation, and alternatives for increasing the necessary supply of water. 10 pages.

Options for Protecting Agricultural Land (M.E. Gordon) discusses policies and programs used in both Canada and the United States to protect agricultural land. 6 pages.

A Summary of The Economics of Agriculture in Alberta: Selected Issues (M.L. Kelly) summarizes a detailed report on this topic (*The Economics of Agriculture in Alberta: Selected Issues*). It provides an overview of background information about several important and controversial issues in agriculture, including the value of agricultural land, agricultural development in the Peace River region, the cost of agricultural inputs, farm income, grain handling and transportation, and marketing boards. The importance of economic considerations in maintaining and expanding the agricultural land base is emphasized. 12 pages.

Soil Fertility, Land Productivity, and Dryland Salinity in Alberta: Summary (K. Sanderson) is a short report written in a non-technical style which summarizes the concepts presented in the soil fertility report (*Soil Fertility and Land Productivity in Alberta*) as well as the information presented in *Dryland Salinity in Alberta*. 10 pages.

Agriculture and Public Land Management in Alberta (M.C. Taylor and K.R. Leggat) presents an overview of the policies and principles which govern the use of public land for agriculture in Alberta. The report also briefly discusses the possibilities of expanding the amount of public land under agricultural use, particularly in the Green (forested) Area of the province. 6 pages.

Greenhouse Production in Alberta (K. Sanderson) describes current greenhouse production, production and marketing problems, and the potential for expansion of greenhouse operations in Alberta. 8 pages.

Maintaining and Expanding the Agricultural Land Base in Alberta: Terms of Reference and Background Information (P.S. Thompson) contains the terms of reference for the ECA's public hearings on the agricultural land base. A concise analysis of the background information presented in detail in the other reports in this series is also included. The concluding section, The Future: A Question of Direction, contains a rough balance sheet of potential changes to the agricultural land base and describes three possible ways of approaching the questions raised by the investigation. 28 pages.

The Impacts of Linear Developments, Resource Extraction, and Industry on the Agricultural Land Base: Summary (C. Webb) summarizes the detailed report *The Impacts of Linear Developments, Resource Extraction, and Industry on the Agricultural Land Base*. Highlights of the research are presented in a non-technical manner, and important implications of the research are described. 9 pages.

Research and Agricultural Productivity in Alberta (Marv Anderson and Associates Ltd. in co-operation with Alberta Agriculture) is a short report which provides an overview of agricultural research activities relevant to Alberta and considers the implications for future agricultural productivity. 16 pages.

2.3.2 Environmental Standards

In 1982, A. Lucas, M.A. Franson, and R.A. Franson completed a comprehensive report for the Environment Council. The report, *Environmental Standards: A Comparative Study of Canadian Standards, Standard Setting Processes and Enforcement,* was completed late in the year and entered the editing process in December.

The report compares Alberta standards with those of B.C., Saskatchewan, Ontario, and the federal government and, to a lesser extent, the United States Environmental Protection Agency. It will be available for release in the spring of 1983.

2.3.3 The Public's Perception of Environmental Policies and Programs

In 1980 and 1981, the public's opinion was sampled on a variety of environmental issues. It was decided to assess this material against other public opinion information available since 1975 in both Canada and the United States. This study resulted in a report by M. Kelly, *Attitudes Toward the Environment: A Comparison of Six Surveys Spanning Six Years.* Major points arising from the report are:

1) The level of concern expressed about environmental problems has remained very high from 1975 to 1980.

2) The level of active participation in attempts to resolve environmental problems remains low.

3) The surveys indicate that people seem to think others are not as aware of the issues as themselves and that the general public often does not practice sound environmental activities.

4) Albertans appear to have a fairly high degree of confidence in the opinions of the general public on environmental matters, and continue to favor improvements in the protection of the environment despite the higher costs involved.

2.4 NEW PROJECTS

New projects in the area of policy and program review can be initiated in several ways: the research staff of the Council may perceive a need to investigate a certain area, the Council may be requested to review certain policies by the minister, or a request may be forwarded to the Council from its Public Advisory Committees.

2.4.1 Staff Projects

With the completion of the report and recommendations on noise and the reports for the agriculture hearings, staff became available for policy and program review in new areas. Those areas are:

Air Quality
A review of the mechanisms designed to ensure appropriate air quality, their effectiveness, and the relationships with other jurisdictions, particularly with respect to long-range transport of air pollutants.

Water Quality
An assessment of water quality protection mechanisms and the effectiveness of those mechanisms.

Environmental Relationships
An assessment of the legislation concerning the ERCB and the relationships of that legislation and its administration with other provincial environmental programs.

Environmental Economics
A review of alternative regulatory systems, including the economic approaches used in the Beverage Container Act.

Eastern Slopes Policy
An assessment of the integration of the major policies affecting land management in the Eastern Slopes.

2.4.2 Ministerial Requests

During 1982, two requests were made under Section 7(1)(b) of the Environment Council Act. They were:

a) To review the operations of the Clean Air, Clean Water, and Beverage Container Acts. This large project is under way and is included in the elements identified under staff projects.

b) To assess methods for reducing road kills of wildlife. This project was completed late in 1982 and will be forwarded to the minister in early 1983.

2.4.3 Assistance to PAC

In late summer of 1982, the Renewable Resources Study Group requested an assessment of the viability of using municipal garbage in power generation. That assessment is expected to be completed in January, 1983.

3. PUBLIC HEARINGS

The Council...
...shall, on being requested to do so by an order of the Lieutenant Governor in Council, hold public hearings for the purpose of receiving briefs and submissions....

Section 7(1)(d), The Environment Council Act

3.1 INTRODUCTION

When 1981 drew to a close, the Environment Council's panel on noise in Alberta was in the midst of preparing its final report and recommendations, based on the public hearings which had been held earlier in the year. The report and recommendations were published in August of 1982.

During 1982, a major program of publishing background information on agriculture in Alberta was carried out by the Council. This program was in preparation for extensive public hearings on maintaining and expanding the agricultural land base in Alberta, now planned for 1983. Terms of reference for these hearings were released by the government early in 1982.

3.2 PUBLIC HEARINGS ON NOISE IN ALBERTA

The Environment Council's report and recommendations on noise in Alberta were presented to the government early in August of 1982, just slightly more than a year after the public hearings on noise in Alberta were completed. The full report and recommendations were then released to the public.

3.2.1 Submission of the Report

On August 11th, 1982, the Noise Panel, chaired by Roy McBride, met with the Economic Planning Committee of the Alberta Cabinet to formally present the report and recommendations.

Then, on August 24th, the full report and recommendations were released to the public. Two news conferences were held, one in Calgary and one in Edmonton, which were attended by the members of the Noise Panel. A summary of the panel's findings was presented by Mr. McBride at both news conferences. Subsequent news coverage, and the announcement cards mailed at the same time to interested citizens, resulted in distribution of more than 1500 copies of *Public Hearings on Noise in Alberta: Report and Recommendations.*

3.2.2 Summary of the Noise Report

A press release based on the chairman's remarks and on the main points of the report noted:

> *The Council found that noise is costing Albertans well over $100 million annually where the damage can be measured – in hearing impairment, workers' compensation, higher demand for medical services, and reduced property values.*

What that cost figure doesn't include are the incalculable losses to a great many Albertans due to what the chairman of the Noise Panel, Roy McBride, terms "interference with a reasonable enjoyment of life."

"People find they have to yell instead of being able to talk to each other. They can't leave their windows open at night, even in the heat of summer, because the traffic noise makes it impossible to get a healthy sleep. Industrial workers complain that they are 'victims of noise.' People are frustrated, and they want to know what can be done about it," McBride reports.

"As the population, industry, and traffic increases, so too does noise, and the numbers of people affected by it," the chairman notes. "The longer these noise problems are ignored, the more difficult and costly their solution becomes."

McBride also believes that "care in planning can prevent noise problems at relatively low cost, but such planning is currently the exception rather than the rule in Alberta."

Besides Mr. McBride, who lives at Halkirk, Alberta, the other members of the Environment Council panel for the noise hearings include Mr. D. Ed Lewis, Q.C. and Ms Joan Wilson, both of Calgary, together with the Council's chief executive officer, Mr. Alistair D. Crerar of Edmonton.

The major recommendation of the panel derives from what the members came to believe is a lack of leadership in the community-at-large on the noise issue. To overcome this problem, the Council proposes a Quiet Communities Directorate, an agency to be established within the provincial government, and designed to provide this missing leadership in achieving a quiet environment for Albertans.

The major task of such a Directorate would be to co-ordinate the efforts of existing government personnel working in the noise abatement field right now. At last count, there were 18 separate departments and agencies of government at the provincial level administering different parts of the province's overall responsibilities for noise protection, control, and prevention. The proposed Directorate would also become a highly visible agency toward which citizens could address their noise problems. This measure is viewed as a means to help reduce the feeling of frustration so many people have where noise is concerned.

One other task which would become the responsibility of the new Directorate would be implementation of a "Buy Quiet" program. Governments would be

encouraged to give preference in their purchasing programs to the quietest machines available. This is also viewed by the Council as a method of providing incentives to manufacturers to produce quieter equipment.

Other major concerns of the report include serious problems of design and construction in many apartment buildings, and the untoward effect on rural 'soundscape' caused by the intrusion of noisy industries. Updating of building standards, and a limit of no more than five decibels of noise above the normal levels in surrounding areas for permanent energy-related industries, are among the Council's recommendations for solutions to these problems.

In its report, the Council identifies the Edmonton Municipal Airport as the single most disturbing noise source in the province. The Council also points to traffic noise as being the most frequent and persistent problem identified at the hearings.

Since the Edmonton Municipal Airport is the responsibility of the City of Edmonton, the Council suggests that city authorities give serious consideration to prohibiting use of the municipal airport by large jet aircraft, and their replacement by quieter commuter aircraft.

The Council also devotes an entire section of its report to the alleviation of traffic noise. The members single out trucks and unnecessarily noisy vehicles as major contributors to the problem, calling for higher standards for trucks. Better enforcement of existing laws, and better land use planning are cited in the report as pressing needs. A suggestion is also made that incentives to reduce noise impacts might result from the general introduction of substantially reduced assessments for property owners heavily impacted by traffic noise.

On October 15th, 1982, Mr. McBride also addressed the Canadian Acoustical Association in Toronto. The text of his remarks follows:

In preparing the Alberta noise report and recommendations, practical experience in other jurisdictions was given careful consideration.

1) *Programs scattered through several government departments without effective co-ordination were inefficient.*

2) *The public was confused with no recognizable single authority to call upon.*

3) *Where noise control budgets were under large departments, internal shifts in emphasis were not apparent to the elected legislatures.*

4) *Public acceptance of programs was limited by lack of understanding of what noise does and what can be done about it, making educational programs a top priority.*

5) *Cost effectiveness of programs was greater where education and a co-operative approach were stressed, with emphasis on forward planning.*

6) *Regulation, though necessary as a last resort, was expensive and apt to result in major confrontation, to the detriment of overall achievement of quiet.*

7) *Since each noise incident is local in its effect, emphasis on keeping control localized proved better in practice, though there was need for co-ordination and standardization of approaches at all levels – municipal, provincial, federal, and international.*

8) *Effective protection of employees from noise in the workplace requires the combined knowledge and ingenuity of both employers and employees.*

Ours was an attempt to recommend an organizational framework that might be practical and economical. Currently 18 Alberta government departments and agencies have noise responsibilities or concerns. To provide leadership, co-ordination, and support at minimum cost there must be a clearly defined noise responsibility centre headed by a Director. This Director should chair an interagency committee made up of representatives of all these departments and agencies. To provide effective planning input, this Director should be a member of the Alberta Planning Board, the top planning authority in our province, and as well, be a member of the Alberta Health Board, our top health authority. The Directorate should be part of a regular government department, but should have a separate vote in budget estimates so that the Legislature would evaluate its effectiveness on a regular basis. Public input to assist the Director in establishment of priorities could be provided by a small advisory committee.

A minimum staff of specialized people not otherwise available would be required. Emphasis should be on utilization of present expertise in the various government departments through co-ordination and extension of

existing programs where practical to meet needs, eliminating any duplication of effort.

Emphasis on education is essential. Individual programs should be tailored to the special needs of all segments of society, including employers and employees in noisy industries, municipal planners and officials, noise by-law enforcement officers, architects and developers, tradesmen, farmers, students in school, and the general public.

In the future, care in planning can prevent noise problems at low cost, but such planning is currently the exception rather than the rule in Alberta. Effective planning requires a clear purpose to make quietness a prime objective, with organization to achieve it, supported by a broad base of knowledge and understanding in government, industry, and above all, in the general public.

The remedy for any particular noise incident must be applied locally and control should be close to the people affected. While the provincial government can and should provide leadership, co-ordination and technical support, the potential of local agencies such as municipal governments, local health units, regional planning commissions, and schools should be fully utilized.

A wide variety of programs should form part of any plan for quiet. Hearing conservation programs should be extended as rapidly as possible to protect the hearing of the large number of noise-exposed workers not included in current programs. Program effectiveness should be monitored by audiometric testing with long-term personal records. Employers in noisy industries should develop noise-abatement plans, applying their knowledge and ingenuity to improve working conditions.

Liaison with all governments is essential to promote consistent and effective approaches. This should include an Alberta municipal noise control by-law similar to the one in Ontario. To mobilize market pressure, economic programs should be promoted to ensure reasonable preference for quieter products.

Economic penalties and incentives should be applied to the tax base to focus greater attention on the implications of the impact of noise on homes.

Research must be promoted in areas where its need is evident.

Regulation should be a last resort, considered only after educational and co-operative approaches have failed to achieve reasonable objectives over a period of time.

There are areas in Alberta that are already excessively noisy. Reduction of such noise to acceptable levels may be very difficult and, in some cases, prohibitively costly. Long-term programs must be developed and implemented where practical, while placing emphasis on preventing the same mistakes being repeated in other areas.

Programs suggested in the recommendations are for the consideration of the Quiet Communities Directorate, with details and timing to be worked out. Top priority is the establishment of such a Directorate, or equivalent organization that can develop approaches to solve noise problems, and provide the leadership and co-ordination necessary to avoid duplication, waste, and inefficiency. The organization must remain flexible so that effort is directed where maximum results can be realized, taking care not to become locked in to unproductive issues. Appraisal of the effectiveness of the various approaches on the basis of experience will result in changing priorities and new programs. The objective must remain a quieter, more acceptable community in which to live, work, and play.

The recommendations made to the government by the Noise Panel are 43 in number, accompanied by a separate set of eight proposals for the alleviation of traffic noise. The detailed recommendations are to be found in Appendix A, along with a short background to the recommendation as provided in the report. The proposals specifically related to traffic noise can also be found in Appendix A.

3.2.3 Governmental Response

Initial response from the provincial government has been delayed due to events such as an election campaign in October. However, a meeting between the Noise Panel members and the new Environment Minister was scheduled for early in the new year.

Significant interest has been noted within local governments concerning the recommendation for establishing an interdepartmental committee on noise. Some members of the Alberta Urban Municipalities Association want to have representation on any such committee. This matter will be going before the AUMA executive in 1983.

3.2.4 Public Response

During the period following the release of the report and recommendations, Noise Panel chairman Roy McBride had several opportunities to appear on "open line" shows on radio and television. Response from the public was gratifying. Whenever he appeared, the switchboards lit up, and in many instances callers jammed the lines. Public support for the Council's recommendations has been very positive.

3.3 PUBLIC HEARINGS ON MAINTAINING AND EXPANDING THE AGRICULTURAL LAND BASE IN ALBERTA

On February 10th, 1982, the government announced the terms of reference for the Environment Council public hearings on the future of Alberta's agricultural land base. On February 18th, the Council held news conferences in Edmonton and Calgary to respond to the government's announcements and to set the stage for an extensive information campaign. At that time, the following statement was released:

> *Announcement by the government of terms of reference for a major set of public hearings on agricultural land by the Environment Council of Alberta has put a three-phased program in motion.*
>
> *"That program will culminate in a report to the Alberta Government on the health and future prospects of Alberta's soil resource," says ECA chief executive officer Alistair Crerar.*
>
> *According to Mr. Crerar, everyone has a stake in this investigation by the ECA, since "good soil is the basis" for our environment. Whether a person is a farmer, a gardener, a rancher, or just someone who loves to smell the flowers, the availability of fertile soil has to be a prime consideration.*
>
> *The three phases of the public hearings program are: to provide information to the public about the issues involved, to hold the hearings, and then to produce the final report and recommendations to government. The first, or information, phase has now begun. Anyone wishing to obtain ECA publications containing the background on these hearings should now contact the ECA.*
>
> *Mr. Crerar said that the second phase would not begin until a panel for the hearings has been appointed by the government. This is not expected for several months. In the meantime, he invited suggestions from the public for people to be nominated as panel members for these hearings.*
>
> *The ECA chief said the whole purpose of these public hearings is to obtain the various points of view of the public on the agricultural land issue. "These contributions become an important part of our final recommendations," he said.*
>
> *"On the question of the future of Alberta's soils, we must reject the approach that the problem does not exist. Beyond the year 2000, real problems are likely to arrive in maintaining the existing production base for agriculture," he said.*

3.3.1 Terms of Reference

By Order-in-Council, the Minister of the Environment established these terms of reference for the ECA public hearings on agricultural land.

The Environment Council of Alberta was requested to:

1) Enquire into means for maintaining and expanding the Alberta agricultural land base and for maximizing its production. The enquiry will address issues related to:

   a) identification of concerns, possible causes and recommendations in respect to problems of soil erosion and salinization.

   b) potential productivity opportunities based on agricultural research in both livestock and other agricultural production.

   c) the use of greenhouse production including potential capacity and identification of suitable geographic areas.

   d) the potential effect of urban growth, industrial development and the land requirements of pipelines, power lines, roads, and airports on our agricultural land base.

   e) the use of fertilizers and chemicals and procedures used in summer-fallowing and soil banking in relation to the efficiency of current and proposed agricultural practices.

2) Hold public hearings at suitable locations in Alberta and report to the Lieutenant Governor in Council and to the Minister of the Environment upon completion of the report.

3.3.2 Information Program

Perhaps the most extensive publishing program ever initiated by the Environment Council has now produced 13 reports and 14 summary reports on a wide variety of topics having relevance to public hearings on maintaining and expanding the agricultural land base in Alberta. These publications were prepared as background information, and are now available free to the public on request. The titles of the publications released in 1982 and a short description of their contents is included in Section 2. A complete list of the publications in the agriculture series can be found in Appendix E: List of Publications.

The reports are often of a technical nature, reflecting a thorough approach to the material. The summaries are written for a general audience and efforts have been made to emphasize the essential elements of each of the subjects they cover.

Additionally, a 26 minute 16 mm film entitled *Tomorrow's Bread* was produced by the Council. This film was available to the public during 1982 and was shown extensively, at meetings around the province and on television in several locations. This film continues to be available on loan to the public.

After the Order-in-Council was received, the Council initiated a province-wide information program to inform people about the upcoming hearings. Major features of the program included:

1) Creation and setting up of specially prepared displays across the province to promote the land base hearings. The displays included a free-standing module used in shopping centres and at agricultural fairs, a portable display used at meetings, and a cardboard counter-top display. The displays were used to attract the attention of people to available printed material.

2) Public meetings with many interest groups. Sixty-nine meetings were held with groups such as municipal governments, regional planning commissions, provincial agencies, the general public, agriculture organizations, environmental groups, professional groups, and community organizations.

3) Release of information about the hearing topic and the various reports we have available. This was done through many types of media, including circulars for a wide variety of special interest groups.

4) The film *Tomorrow's Bread* was made available through the library on an on-request basis. The film was signed out 20 times in 1982 for this purpose. It was also shown at most of the public meetings.

5) A mailing list specific to the agriculture program has been created and about 1500 individuals and organizations are now on that list.

6) The reports and summaries have received extensive distribution. By late 1982 approximately 29,000 of these publications had been distributed to the public.

3.3 Public Hearings

In late 1982 the Council was waiting for the appointment of the hearing panel, so that hearings could commence in 1983.

4. PUBLIC ADVISORY COMMITTEES

The Council...may...
...appoint one or more public advisory committees on environment conservation....

Section 10(a), The Environment Council Act

4.1 THE PUBLIC ADVISORY COMMITTEE ON THE ENVIRONMENT

A number of important concerns were identified by the various Study Groups of the Public Advisory Committee and brought forward for open discussion and action during the year.

Once again this very large volunteer committee proved to be an invaluable early warning system for Alberta's environmental problems as well as a good source of advice and guidance for the Council and the government in determining the most appropriate response to them.

Among the more notable of these items were:

1) the proposal of TransAlta Utilities to increase the power output of the Bighorn Dam

2) the decision to proceed with the engineering design of the Slave River hydro project

3) Pincher Creek health problems

4) the applications of Canterra and Gulf to expand gas plant operations in the Rocky Mountain House area

5) clear-cutting of forests in the West Castle watershed to control pine bark beetle infestations

6) PAC's proposal to target an overall limitation on SO_2 emissions and the responses of the government and the ERCB to it

7) the continued saga of the Odyssey project

8) the proposal for timber cutting and wood-pulp processing in the Brazeau area

9) sundry suspected infringements of the Eastern Slopes policy

10) the use of municipal waste for power generation

11) local sewage disposal problems

12) the location of a hazardous waste disposal plant

13) development of the Blackfoot Grazing Reserve, and

14) the Lodgepole well blowout crisis

The annual reports of the Public Advisory Committees and sub-groups may be found in Appendix B. Resolutions passed at the annual joint meeting with the Environment Council appear in Appendix C.

4.1.1 The Co-ordinating Committee

To conduct its business, the Co-ordinating Committee held 12 regular meetings, two of which were attended by the Minister of the Environment, Hon. Jack Cookson. Invitations to attend were extended to the Hon. Bob Bogle, Minister of Social Services and Community Health, and Hon. Peter Trynchy, Minister of Recreation and Parks. They were, however, unable to meet with the Committee.

4.1.2 The Energy Study Group

At the beginning of 1982, an Energy Study Group was formed under Chairman Chris Walker to replace the former Energy Conservation Study Group which had been unable to hold separate meetings for over a year. With its expanded area of interest, the group experienced renewed vitality and met on seven occasions during the year. Its first concern was to review the emergency energy supply situation in Alberta. After a number of discussions with representatives of the Gas Utilities Division of Alberta Utilities and Telephones, Northwestern Utilities Limited, Edmonton Power, and the Energy Resources Conservation Board, the group was pleased to conclude that Albertans are very well provided for and need have little fear of major prolonged power failures from any but the most disastrous of possible emergencies.

4.1.3 The Environment Protection Study Group

Environment Protection, one of the larger Study Groups, held nine meetings under its new chairman, Dr. Guy Swinnerton. Rural land use was the major theme for the year and involved discussions with responsible experts on such aspects as loss of land to urban growth, country residential development, special areas land sale, access to water bodies, and recreation zone policy in the Eastern Slopes.

As a result of these studies the group produced four resolutions all of which were approved by the membership at large at the annual joint meeting.

4.1.4 The Non-Renewable Resources Study Group

The Non-Renewable Resources Study Group continued to be chaired by Mr. Chris Dunkley and began the year with an in-depth study of Alberta's Environmental Impact Assessment process. In this they had the expert assistance of Prof. A.R. Lucas, a fellow member, as well as the vice-chairman of the ERCB, the Director of Environmental Assessment for Alberta Environment, and Prof. Ian Rounthwaite, law professor at the University of Calgary. Altogether they held nine meetings.

These studies resulted in five resolutions which were approved at the annual joint meeting.

4.1.5 The Pollution Study Group

The Pollution Study Group held 10 meetings during the year including an all-day tour of the Alberta Environmental Centre at Vegreville.

Under the continued chairmanship of Mr. Lubomir Wojtiw, two main subjects occupied their attention: acid rain and water quality in Alberta rivers.

They were also concerned with the specific health problems of residents of the Pincher Creek area and in February the Study Group met with area residents, gas industry spokesmen, and government officials in a special meeting at Pincher Creek to learn more about the problem. Their studies resulted in an emergency resolution which was dispatched to the Minister of Social Services and Community Health in April requesting that he conduct a comprehensive epidemiological study of the area residents as recommended by the Canadian Public Health Association.

The resolution was unfortunately not adopted by the Department. The Study Group continues to follow the course of the problem with interest.

This resolution and five others from the Study Group were approved at the annual joint meeting by the membership at large.

4.1.6 The Renewable Resources Study Group

The Renewable Resources Study Group held seven meetings during the year.

Under the leadership of the chairman, Dr. Charlie Wood, the Study Group continued its interest in the safety aspects of pesticide use on farms and this resulted in their single resolution to the annual joint meeting. They also identified six areas for future study, three of which – land stewardship, water management, and forest management – the Study Group actively investigated during the year.

Although much time was spent studying the implications of TransAlta Utilities' use of the Brazeau and Bighorn dams for increased generation of peaking power in the wintertime, by far the major effort was directed to the denuding of the West Castle watershed for pine bark beetle control.

Efforts of the Study Group to arrange a conducted visit to the West Castle area failed, but as a result of their continued efforts a series of meetings was commenced under the auspices of the Council to induce and maintain a meaningful dialogue between such diverse parties as the Alberta Forest Service, the Alberta Wilderness Association, and the local residents' association on this difficult problem. By the end of the year, two meetings had been held and it seemed that a substantial easing of tensions had been achieved between the various interested parties.

4.1.7 The Urban Environment Study Group

Under its new chairman, Mr. Steve Thompson, this group held 10 meetings during the year. The principal focus of attention was the urban/rural interface and all the conflicting factors that result in the relentless absorption of agricultural land by our cities.

No resolutions resulted from the year's work, but the Study Group looks forward to participating in the Council's agricultural land base hearings in the coming year.

4.2 THE SCIENCE ADVISORY COMMITTEE

Three meetings were held during the year under the chairmanship of Dr. Terry Veeman.

The Committee maintained its keen interest in water management issues and monitored such developments as the "Kroeger Committee," Alberta Environment's *Water Resource Management Principles for Alberta,* the Wright Mansell report on benefit/cost analysis for water management projects, and the Slave River hydro feasibility study.

It considered the production of a Water Management Policy Statement for Alberta for submission to the government and plans to pursue this further.

It monitored further developments on hazardous waste management, the Blackfoot Grazing Reserve, and the Pincher Creek health study and reviewed all resolutions proposed by the Study Groups for 1982 submission.

It continued its interest in possible nuclear developments in Alberta and reviewed the second AECL report on nuclear energy for the oil sands.

The Committee also presented a brief to the public hearings on the environmental impact guidelines for the Slave River project and assembled an ad hoc committee for the Council's public hearings on the agricultural land base.

4.3 THE ENVIRONMENTAL EDUCATION ADVISORY COMMITTEE

The main project of the Committee during the year was the development of a pilot "Action Program" to stimulate a constructive approach by the public toward the solution of environmental problems.

The initial project is directed toward the solution of private and small community sewage disposal problems. The Committee assembled a kit for distribution to a select public consisting of the members of PAC and all MLAs for its trial run.

The group also produced an abstract of *Attitudes Toward the Environment: A Comparison of Six Surveys Spanning Six Years,* an ECA report by M.L. Kelly, which it planned to distribute to the same public for information and response.

Four meetings were held, three in Calgary and one in Edmonton.

5. OTHER ACTIVITIES OF THE ENVIRONMENT COUNCIL

In addition to its regular functions related to public hearings, the Public Advisory Committees, and policy and program reviews, each year the Council undertakes or takes part in other activities.

During 1982 the Council took part in the seventh annual meeting of the Canadian Environmental Advisory Councils and also held two special meetings with interested and concerned parties on matters concerning the control of pine bark beetle infestations in southwestern Alberta.

5.1 CANADIAN ENVIRONMENTAL ADVISORY COUNCILS

The seventh annual meeting of the Canadian Environmental Advisory Councils was held at Digby, Nova Scotia on June 9th, 1982. The chief executive officer and two directors of the Environment Council attended.

5.1.1 Organization and Attendance

The choice of location followed the established practice of alternating between the eastern and western provinces. Following the 1981 meeting at Banff, the Nova Scotia Environmental Control Council volunteered to act as host to the 1982 meeting and decided on Digby as the venue.

Altogether 41 delegates attended, representing the federal and seven provincial councils. Regrettably there were no representatives from Newfoundland, Quebec, British Columbia, the Yukon, or the Northwest Territories.

5.1.2 Program and Agenda

As in previous years, a prominent feature of the program was the report from each council on its activities during the year; this included an assessment by each of its effectiveness as advisor to its government.

The workshop format was again adopted and each of the three workshop sessions was preceded by a keynote speaker on the topic, as follows:

Environmental Impact of Surface Mining

The keynote speaker was Mr. John C. Smith, former assistant deputy minister in charge of mines and water for the New Brunswick Department of Natural Resources, and President of Novaco Limited.

Energy and the Environment

Keynote speaker Dr. John C. O'C. Young is a professor of chemistry at St. Mary's University, Halifax, N.S. where he teaches physical chemistry, thermodynamics, and environmental chemistry.

Environmental Education

Mr. Ken Fawcett of the Saskatchewan Environmental Advisory Council was the keynote speaker. A former high school science and biology teacher, Mr. Fawcett is now liaison officer between Saskatchewan Environment and the Saskatchewan Environmental Advisory Council.

A departure from the usual format was the inclusion of all delegates in all workshops by rotating the sub-groups through the separate sessions. In addition no workshop attempted to prepare and present formal resolutions. Instead each workshop brought to the plenary session a summary of opinions and conclusions and an attempt was made to reduce these to a rough consensus.

As a result a number of recommendations were identified in relation to two of the three topics and these were reported in the press as follows:

Energy and the Environment

1) environmental and social effects as well as economic effects should enter into the evaluation of a project's merits
2) all proposals (both those accepted and those rejected) should be regularly re-evaluated to reflect changes in economic, social, environmental, or technological conditions
3) research and development should be increased with respect to the environmental aspects of new energy projects, and
4) energy strategies should be regional, not national, in scope because pertinent conditions (environmental, social, and so on) vary widely from region to region.

Environmental Education

1) the councils should exchange information on a regular basis
2) they should encourage an interdisciplinary approach to environmental education in the schools, rather than it being limited to a particular curriculum, and
3) there should be a greater emphasis on educating the public rather than just informing them, enabling citizens to think intelligently for themselves about environmental issues.

The meeting also listened to a presentation on tidal power by Richard DeLory of the Nova Scotia Power Corporation and George Baker of the Annapolis Tidal Power Project which was followed by a full-scale guided tour of the project.

What the delegates saw was a commercial-sized installation of a single low-head generating unit of "Straflo" design rated at 20 megawatts using a hydraulic head range of 1.4 to 7.1 metres.

The installation, which was about 80 percent complete, was due to start producing power later in 1982. All reservoir and powerhouse installations and control structures were already in place.

The intention is that this unit will serve as a pilot operation for a multiple unit facility being considered for installation later, possibly across the Minas Basin.

During the 1981 meeting the delegates were given a presentation entitled "Global 2000 – The Canadian Perspective" by Mr. Tom DeFayer of Environment Canada. This was followed up by an open panel discussion which took place in an after-dinner session.

Attention was also given by the assembly to a review of the conduct and format of future meetings. The federal council volunteered to host the next meeting and accepted a number of suggestions for the eighth meeting to take place in Ottawa in 1983.

Proceedings of the meeting will be distributed by the Nova Scotia council in due course.

5.2 SPECIAL MEETINGS

Early in the year the Pincher Creek/Crowsnest chapter of the Alberta Wilderness Association presented a petition to the Premier of Alberta objecting to what they regarded as unsuitable logging practices in the South Castle River area and violation of the zoning guidelines of the Eastern Slopes management policy. They requested that the logging be suspended and public hearings be held on what they regarded as "large-scale environmental disruption." They sought the support of the Council in a separate letter to its chief executive officer, and requested a meeting with the Public Advisory Committee on the Environment. An initial meeting was held in April when delegate Brian Staszinsky attended the monthly meeting of the Renewable Resources Study Group of the Public Advisory Committee and reviewed the problem. He also announced that a "Castle Watershed Study Committee" had been formed to pursue the matter.

Numerous letters were written and releases given to the press by this group, as well as by officials of the Alberta Wilderness Association. This led both the Public Advisory Committee and the Council to the conclusion that a significant communication gap had arisen between the officials responsible for the logging activities, the companies performing the work, and the local residents and other members of the public who were observing it with disfavor.

As a result the Council decided that representatives of these and other concerned or involved groups and organizations should be brought together in a neutral forum for frank and open discussion of the matter.

Consequently invitations were issued by the Council to representatives of:

Alberta Energy and Natural Resources,
Alberta Fish and Wildlife,
Alberta Forest Service, including regional representatives,
Alberta Recreation and Parks,
Alberta Wilderness Association,
Canadian Forestry Service,
Environment Council of Alberta,
Habitat Protection and Development Branch,
Parks Canada,
Public Advisory Committee on the Environment,
Resource Evaluation and Planning Division, and
University of Alberta, Department of Forest Science.

5.2.1 The First Meeting

A first meeting was held on September 16th and succeeded only in providing the necessary background on the situation and opening up future prospects.

It did however identify that there were two aspects to the program, a control program and a salvage program. The meeting concluded that there was little difficulty with the Pine Bark Beetle control program since it appeared to be effective, sensitive, and successful.

The main problem appeared to arise from the salvage program. The questions arose as to what options for salvage were available and whether a suitable pre-planning process could be devised that would clearly identify the structures, participants and approaches necessary for success, prior to the outset of salvage logging.

5.2.2 The Second Meeting

On November 4th a second meeting was held with the same participants and similarly open and unrestrained discussions ensued.

As a result the elements of a suitable preplanning process were identified and agreed to by the participants.

The Alberta Wilderness Association subsequently expressed its appreciation of the opportunity provided by the Council to have a meaningful discussion of these matters.

The president of the Association felt that the air had been cleared of some discontent; they look forward to providing input to the pre-planning process. They felt however that more research was needed into the management of our southern lodgepole pine forests to avoid future outbreaks, and that "innovative and integrated approaches to forest management in sensitive areas" were needed.

The function of providing a neutral forum for the resolution of major dissentions of this type has merit and is worthy of further consideration and action as the need arises.

6. ADMINISTRATION

The administration division is responsible for providing services to the Environment Council in the areas of accounting, budgeting, editing, library, messenger, office management, personnel, print procurement, and purchasing.

The Environment Council moved to new space located on the 8th Floor, Weber Centre, 5555 Calgary Trail, Edmonton. The move was accomplished with minimal interruption of service to the public. The Council's telephone numbers remained the same.

6.1 FISCAL REPORT

Funds for the operation of the Environment Council are provided under Alberta Environment's Vote 8 – Overview and Co-ordination of Environment Conservation. These funds are transferred to the Council from the Department of Treasury on a monthly basis, and with the exception of salaries, are deposited in the Council's bank account at the main branch of the Canadian Imperial Bank of Commerce, Edmonton. Cheques are issued directly by the Council for payment of all accounts. During 1982, a total of 1,519 cheques were issued.

With the operation of its own bank account, the Council operates at arm's length from the Alberta Government; however, the financial reports are audited by the office of the Auditor General. His report follows.

ENVIRONMENT COUNCIL OF ALBERTA

FINANCIAL STATEMENTS

MARCH 31, 1982

Auditor's Report

Balance Sheet

Statement of Capital Surplus

Statement of Operations and Operating Surplus

Notes to the Financial Statements

OFFICE OF THE AUDITOR GENERA

ALBERTA LEGISLATURE

OFFICE OF THE AUDITOR GENERAL

AUDITOR'S REPORT

To the Chief Executive Officer of the
Environment Council of Alberta

I have examined the balance sheet of the Environment Council of Alberta as at March 31, 1982 and the statements of capital surplus and operations and operating surplus for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Council as at March 31, 1982 and the results of its operations for the year then ended in accordance with the disclosed basis of accounting described in Note 2 to the financial statements applied on a basis consistent with that of the preceding year.

C.A.
Auditor General

Edmonton, Alberta
September 30, 1982

Statement A

ENVIRONMENT COUNCIL OF ALBERTA

BALANCE SHEET

AS AT MARCH 31, 1982

	1982	1981
ASSETS		
Current:		
Cash	$380,787	$373,593
Fixed: (Note 2)		
Office equipment, at cost	81,218	80,112
Less: Accumulated depreciation	51,553	44,081
	29,665	36,031
	$410,452	$409,624
LIABILITIES AND SURPLUS		
Current:		
Accounts payable	$ 91,485	$ 27,941
Surplus:		
Capital, Statement B	29,665	36,031
Operating, Statement C	289,302	345,652
	318,967	381,683
	$410,452	$409,624

The accompanying notes are part of these financial statements.

Statement B

ENVIRONMENT COUNCIL OF ALBERTA

STATEMENT OF CAPITAL SURPLUS

FOR THE YEAR ENDED MARCH 31, 1982

	1982	1981
Balance at beginning of year	$36,031	$43,412
Add: Office equipment purchased from operations (Note 2)	1,107	1,606
	37,138	45,018
Less: Depreciation for the year (Note 2)	7,473	7,682
Adjustment resulting from write-off of fixed assets	-	1,305
	7,473	8,987
Balance at end of year	$29,665	$36,031

Statement C

ENVIRONMENT COUNCIL OF ALBERTA

STATEMENT OF OPERATIONS AND OPERATING SURPLUS

FOR THE YEAR ENDED MARCH 31, 1982

	1982	1981
Revenue:		
Contributions by the Province of Alberta	$1,187,177	$1,162,257
Occupancy contributions by the Province of Alberta, Department of Housing and Public Works	77,134	77,134
	1,264,311	1,239,391
Expenditure:		
Salaries	619,233	531,792
Fees and commissions	149,803	292,920
Travelling	146,060	138,159
Printing	145,454	113,294
Occupancy	77,134	77,134
Employee benefits	57,126	14,841
Advertising	33,346	12,566
Stationery, office supplies and postage	30,223	28,284
Equipment rental	25,033	30,675
Wages	20,267	20,329
Library	7,270	7,615
Telephone	3,751	4,020
Hall rentals	3,276	4,845
Equipment purchases (Note 2)	1,107	1,606
Grants	-	9,000
Miscellaneous	1,578	2,300
	1,320,661	1,289,380
Deficit for the year	56,350	49,989
Operating surplus at beginning of year	345,652	395,641
Operating surplus at end of year	$ 289,302	$ 345,652

ENVIRONMENT COUNCIL OF ALBERTA

NOTES TO THE FINANCIAL STATEMENTS

MARCH 31, 1982

Note 1 Authority

The Environment Council of Alberta operates under the authority of the Environment Council Act, Chapter E-13, Revised Statutes of Alberta 1980.

Note 2 Significant Accounting Policies and Reporting Practices

These financial statements have been prepared in accordance with generally accepted accounting principles except that fixed assets have been charged to expense at date of acquisition. In addition, the cost of fixed assets acquired has been credited to Capital Surplus. Depreciation on a straight line basis has been charged to Capital Surplus.

Note 3 Changes in Financial Position

A statement of changes in financial position is not provided as disclosure in these financial statements is considered to be adequate.

Note 4 Commitments

As at March 31, 1982 the Council had outstanding contract commitments totalling approximately $19,000 with respect to projects undertaken by consultants.

Note 5 Approval of Financial Statements

These financial statements were approved by management on September 30, 1982

6.2 PERSONNEL

During the year, three additional permanent full-time salaried positions were approved to bring the staff complement to 27.

All permanent salaried positions are under the purview of the Public Service Commissioner and the regulations issued by the Personnel Administration Office are applicable. Non-management and non-excluded staff are members of the Alberta Union of Provincial Employees.

During the year, there were two resignations and five commencements. All positions were filled at December 31, 1982.

The Environment Council encourages staff development and actively supports participation in courses, seminars, workshops, and conferences sponsored by such organizations as the Personnel Administration Office, the University of Alberta, various professional associations, and others.

6.3 EDITING SERVICES

During 1982, the time and resources of the editing section were devoted primarily to the background information program for public hearings on maintaining and expanding the agricultural land base. At the end of 1982, we had published 13 major reports on various agricultural topics, 14 summary reports, and a general information brochure on the agriculture hearings. As of December 31, 1982, an additional major report and its accompanying summary report were in press. The agriculture series is the most extensive publication program the Council has ever undertaken, and we are pleased with the positive public response these reports have generated.

A very important report which was also published during 1982 was *Noise In Alberta: Report and Recommendations*, the final report resulting from the Council's investigation of noise in Alberta. This report contains the Council's recommendations to the government concerning noise in Alberta. (These recommendations may also be found in Appendix A of this report.) Again, public response to the report has been positive.

During 1982, the editing section also produced a pamphlet for the Council's liaison section, about the Public Advisory Committees. This pamphlet was released to the members of the Public Advisory Committee at their annual joint meeting in December, and met with a very favorable response. It is now available for public distribution, and should be a valuable tool for clarifying the role of the Public Advisory Committees to the public.

Two publications were reprinted because of continuing demand during the year: *Administration and Regulation of Hazardous Waste* and *Economic Aspects of Noise*.

6.4 LIBRARY SERVICES

The responsibilities of the Environment Council of Alberta Library are:

1) to provide information and background material to support projects of the Council and its research staff
2) to provide a source of environmental information for the general public
3) to manage and distribute all Environment Council publications.

The library contains 5,616 books and government documents and subscribes to 177 periodicals and 13 newspapers. The collection also includes an extensive file of newspaper clippings on environmental matters, maps, and a selection of general reference material.

Services to the ECA staff:

Loans to Council staff (excluding periodicals):	376
Periodical loans to Council staff:	269
Reference questions answered:	261
Material borrowed from other libraries (interlibrary loans):	288

Services to the public:

Inquiries received by phone, letter, or personal visits:	520
Interlibrary loans to the public and other agencies:	42
Loans of the film *Tomorrow's Bread*	20

Publications

During the year, the library was responsible for the distribution of a large number of publications and brochures.

Noise in Alberta: Report and Recommendations	1,601
Attitudes Toward the Environment: A Comparison of Six Surveys Spanning Six Years	783
Public Advisory Committee Annual Report	157
Agriculture Reports	29,039
Agriculture Brochures	29,000
Miscellaneous Publications	3,913
Total distributed	64,493

See Appendix E for a complete list of Environment Council publications.

As noted above, a large number of publications were distributed in preparation for public hearings on maintaining and expanding the agricultural land base in Alberta.

Name of Publication	No. of Copies Distributed
Factors Affecting Summerfallow Acreage in Alberta	861
Factors Affecting Summerfallow Acreage in Alberta: Summary	1,968
The Agricultural Land Base in Alberta	1,232
The Agricultural Land Base in Alberta: Summary	1,894
Agricultural Land and Land Use Planning in Alberta: A Review of Planning Legislation and Practices	1,241
Agricultural Land and Land Use Planning in Alberta: Summary and Issues	2,269
Agriculture and the Environment	1,581
Agriculture and the Environment: Summary	1,350
Urbanization of Agricultural Land	1,188
Urbanization of Agricultural Land: Summary	1,741
Rural Subdivision In the Edmonton, Battle River, Red Deer, and Calgary Regional Planning Commissions, 1977-1979	1,028
Irrigation Agriculture in Alberta	862
Irrigation Agriculture in Alberta: Summary	1,341
Dryland Salinity in Alberta	1,396
Options for Protecting Agricultural Land	1,440
Soil Fertility and Land Productivity in Alberta	761
Fisheries and Wildlife Resources and the Agricultural Land Base in Alberta	752

Economics of Agriculture in Alberta: Selected Issues	606
A Summary of The Economics of Agriculture in Alberta: Selected Issues	623
An Analysis of Legislation Affecting Agricultural Land in Alberta	722
Soil Fertility, Land Productivity, and Dryland Salinity in Alberta: Summary	740
Agriculture and Public Land Management in Alberta	828
Greenhouse Production in Alberta	835
Maintaining and Expanding the Agricultural Land Base in Alberta: Terms of Reference and Background Information	684
The Impacts of Linear Developments, Resource Extraction, and Industry on the Agricultural Land Base	506
The Impacts of Linear Developments, Resource Extraction, and Industry on the Agricultural Land Base: Summary	590
Total	29,039

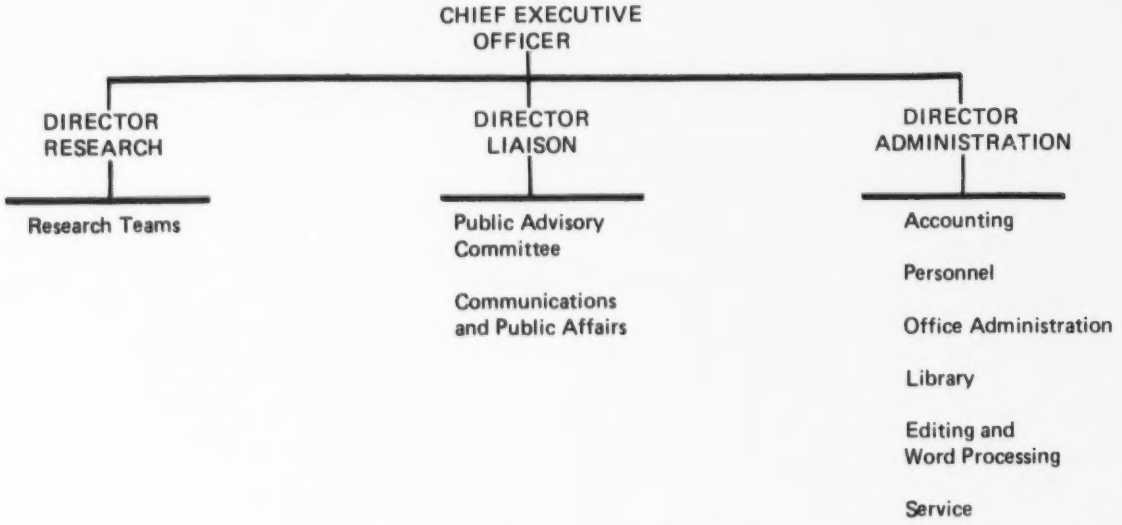
In addition to the above publications, a total of 29,000 Agricultural Information Brochures were distributed.

The ECA mailing list was revised, updated, and consisted of 11,580 addresses at the end of 1982:

General list:	1,122 addresses
Agriculture list:	1,513 addresses
Total of all other lists:	8,945 addresses

Convenient local access to Environment Council information is available at a total of 47 depository libraries or "Information Centres" located throughout Alberta. A list of the Information Centres may be found in Appendix F. Transcripts of public hearings have a more limited distribution; these may be viewed at the locations given in Appendix G.

ORGANIZATION OF THE ECA



1. CHIEF EXECUTIVE OFFICER - Exercises the power of the council and performs the duties and functions of the council, and is a member and Vice-Chairman of panels constituted by the Lieutenant-Governor in Council.
2. DIRECTOR, RESEARCH - Directs research officers and is responsible for the scientific activities of the council.
3. DIRECTOR, LIAISON - Directs assistance to the Public Advisory Committees; responsible for communications, public relations, and public affairs.
4. DIRECTOR, ADMINISTRATION - Directs and supervises the administrative systems—financial, accounting, personnel, editing, and word processing functions.

7. APPENDICES

Appendix A

Recommendations on Noise in Alberta

CREATING QUIET IN ALBERTA

INTRODUCTION

Noise is any sound or combination of sounds which is disturbing, harmful, or unwanted. Of greatest concern are those sounds which threaten or affect the health or well-being of individuals.

The World Health Organization defines health as "a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity." The Council accepts this definition and, therefore, considers noise to be a health hazard.

Noise is already a serious problem for some Albertans, particularly those who are located along major truck routes or busy highways or those who work in noisy occupations. However, with the growth of population and increasing industrialization in Alberta, it is expected that more people will be impacted more severely by noise in the future unless actions are taken now to prevent an increase in noise levels.

The major recommendation proposes a Quiet Communities Directorate, to be responsible for leadership in achieving a quiet environment.

Recommendations will be dealt with under the following headings: Administration, Education, Co-ordination, Planning, Economic Programs, and Research. The problems of noise in the workplace, noise in energy-related developments, alternate recreation facilities, and the general problem of noise measurement are dealt with separately.

ADMINISTRATION

Recommendation 1

That an agency be established within the provincial government to provide leadership in achieving a quiet environment in Alberta.

The Council believes that the key to creating quiet communities is to establish an agency whose sole responsibility would be noise control. The functions of this agency, identified as the QUIET COMMUNITIES DIRECTORATE, would be:

1) To develop a core of technical expertise about noise – its nature, hazards, and control – that would be available to the provincial government departments, municipalities, and the public at large.

2) To develop special programs to achieve quiet communities; for example, through education, economic programs, and development of a model municipal noise control by-law.

3) To liaise and co-ordinate noise concerns among jurisdictions and departments. A non-exhaustive listing by the Council identified five municipal departments, 18 provincial departments, and eight federal departments or agencies responsible for, or concerned with, noise matters. There is a need for a centre to co-ordinate action on noise among the three levels of government and among the various provincial departments.

The major responsibilities of the Quiet Communities Directorate would include:

1) education;
2) co-ordination among provincial government departments, and between the province, municipalities, and the federal government;
3) advice on land use planning and a referral centre for noise planning problems;
4) the development of a model municipal noise control by-law and other legislative measures;
5) the development of economic, research, and other programs intended to achieve quiet;
6) the design and development of alternative facilities for those who seek quiet;
7) the development and enforcement of standards and regulations.

(See Section 4.2.1.)

Recommendation 2

That the Quiet Communities Directorate be composed of three divisions: Technical, Operational, and Quiet Communities.

The nature of noise is complex and far reaching. To effectively deal with all aspects of noise, three separate divisions are required:

1) The Technical Division would be the centre of technical expertise on noise with responsibility for research, design, monitoring noise levels, equipment, and development of standards.

2) The Operational Division would:
   a) review subdivision plans referred by subdivision approving authorities;
   b) provide liaison and co-ordination among provincial government departments and agencies and among levels of government;
   c) design and promote facilities which provide quiet alternatives.

   If enforcement becomes necessary, the development of procedures would also be the responsibility of this division.

3) The Quiet Communities Division would:
   a) develop education programs on noise designed to reach all sectors of the population;
   b) develop a province-wide municipal model noise control by-law and other legislative measures;
   c) design economic, research, and other programs that would assist in creating quiet communities.

(See Section 4.2.1.)

Recommendation 3

That the Director of the Quiet Communities Directorate be a member of the Alberta Planning Board and the Provincial Board of Health.

Co-ordination is essential to the overall effectiveness of the Quiet Communities Directorate. The Director, therefore, should be a member of the Alberta Planning Board, which reviews regional plans and receives appeals concerning subdivision approvals.

The Director should also be a member of the Provincial Board of Health, which is responsible for overseeing community health programs throughout Alberta.

(See Section 4.2.1.)

Recommendation 4

That an Interagency Quiet Communities Co-ordinating Committee be established and that the Director of the Quiet Communities Directorate act as chairman.

An Interagency Quiet Communities Co-ordinating Committee should be established, where all Alberta Government departments with a responsibility or concern for various aspects of noise at the provincial level would be represented. This committee

would provide for information exchange about the various programs and approaches being adopted by the different departments, the identification of noise problems they are experiencing, and their successes in coping with them. In addition, the programs of the Quiet Communities Directorate could be co-ordinated with noise programs in the various departments.

(See Section 4.2.1.)

Recommendation 5

That a Quiet Advisory Committee be established.

A committee consisting of a few members of the general public could provide input, advice, and guidance on noise problems, the effectiveness of the Quiet Communities Directorate's programs, and the identification of areas where more attention should be focussed.

(See Section 4.2.1.)

Recommendation 6

That the Quiet Communities Directorate be located either in the Department of Municipal Affairs or the Department of Social Services and Community Health.

The case for location in the Department of Municipal Affairs relates to:

1) the importance of planning as a tool in creating quiet communities;
2) the need to review regional plans and subdivision approvals;
3) the development of a model municipal noise control by-law and its adoption by municipalities.

The case for locating the Quiet Communities Directorate in the Department of Social Services and Community Health is that noise is basically a health problem. The Health Services division is responsible for the network of local boards of health which cover the province in 27 autonomous health units. Approximately 125 inspectors in these health units are already responsible for environmental health concerns, ranging from eating facilities to septic tanks. Local boards of health usually are capable of conducting hearing tests. In addition some public health inspectors, as part of their training, receive instruction on monitoring and interpreting noise measurements.

Because so many of the needed technical capabilities already exist in the local boards of health, and with a network of provincial coverage already in place,

locating the Quiet Communities Directorate in the Department of Social Services and Community Health appears to be a very practical solution.

(See Section 4.2.1.)

Recommendation 7

That the Quiet Communities Directorate have a separate vote in estimates yet be assigned to a department.

A separate vote would ensure that the responsibility for the control of noise and the creation of quiet is clearly identified.

It would also mean that the Legislature and Cabinet would review the mandate, performance, and expenditures separately, thus ensuring that the effectiveness of the Quiet Communities Directorate is assessed on a continuing basis. The department to which it is assigned would provide the normal housekeeping facilities: financial control, personnel administration, and general administrative support.

(See Section 4.2.1.)

EDUCATION

Recommendation 8

That education programs be a major responsibility of the Quiet Communities Directorate.

Education is identified by the Council as the most important element of any program to achieve quiet in our communities. The Council further believes that much of the problem with noise is either lack of knowledge about its health dangers and how quiet can be achieved, or simple thoughtlessness. Education programs should be directed at these problems.

Though educational programs should be aimed at a broad spectrum of the population, certain high-priority target groups can be identified:

1) Those in decision-making positions – their program might be modelled after a very effective program developed in Ontario, consisting of courses ranging from one day to one week, tailored for people such as municipal planners, architects, municipal officials, and developers. These courses are essentially directed at

those involved in the planning and development of new residential communities so that they become aware of the nature of noise problems, and of solutions to them.

2) Employers and workers in noisy occupations – for example, hearing testing, an integral part of any hearing conservation program, provides an opportunity for an important educational experience. At the time of testing, the audiologist or the audiometric technician has a unique opportunity to explain to the worker what is being tested and why, the impacts that cumulative exposure to noise can have, and the means of preventing hearing loss. Other techniques may include the use of various educational materials. An education program specifically geared to the farming community should also be developed.

3) Students in elementary and secondary schools – there is little awareness of the nature of noise, the danger of noise, or the need for protection from excessive noise among the general public.

   The Office of Noise Abatement and Control in the United States Environmental Protection Agency developed educational packages for use at all grade levels in elementary and secondary schools, intended to provide a general level of awareness of the nature and problems of noise. The potential use of this or similar educational models in the schools of Alberta should be explored.

4) Students in technical training institutions or apprenticeship programs – an educational program would be part of pre-employment training for those who will work in noisy trades. These programs would identify problems that students will face during their working life and the ways to avoid noise-induced hearing loss.

5) General programs to increase public awareness of noise are also required.

(See Sections 4.2.1, 4.2.2, and 4.3.2.)

CO-ORDINATION

Co-ordination is an important function of the Quiet Communities Directorate because at present the responsibility for noise control is divided among a number of different jurisdictions and agencies.

Federal Liaison and Co-ordination

Recommendation 9

That the Quiet Communities Directorate work with the federal government to achieve quieter manufactured and imported products.

Recommendation 10

That the Quiet Communities Directorate work with the federal government to reduce the noise generated by aircraft and railways.

Recommendation 11

That the Quiet Communities Directorate work with the federal government to provide the same level of protection to federal employees as is provided to other Albertans.

At the provincial level, there is little possibility of influencing the noise levels of products such as vehicles, construction equipment, aircraft, and appliances since most are manufactured outside the province or the country. The federal government has the legislative authority to request that such products be quieter when manufactured or imported. The federal government is also responsible for the regulation of many noise-producing facilities such as railways and aircraft, as well as being a major employer through institutions such as the post office. As an employer, the federal government provides a different standard of noise protection to its employees than is required of other Alberta employers. This is an unsatisfactory situation since all Albertans should be provided with the same level of noise protection whether they work in a provincially or federally regulated industry.

(See Section 4.2.3.)

Provincial Co-ordination

As pointed out in Recommendation 1, some 18 departments and agencies in the provincial government have a concern with or a responsibility for certain aspects of noise. In most instances, these concerns and responsibilities should remain where they are, since they are frequently built into other programs or services provided by these departments. For example, the Department of Transportation, in the development of new highways, has considerable skill in designing, locating, and constructing highways so that their noise impacts can be reduced.

The Public Works section of the Department of Housing and Public Works is concerned with reducing noise levels in provincial government offices through such techniques as insulating or designing of air-conditioning equipment. These skills and functions should remain with these departments, but could be assisted and co-ordinated by the Quiet Communities Directorate.

Recommendation 12

That the Quiet Communities Directorate provide a readily identified single responsibility centre for noise complaints.

Public complaints about noise are presently directed to many different departments, such as the Department of Environment, the Department of Transportation, or the Energy Resources Conservation Board. Having the Quiet Communities Directorate receive all complaints would be advantageous to the public, even though appropriate action would frequently be provided by other departments or agencies.

(See Section 4.2.1.)

Municipal Co-ordination

Many aspects of noise are local. Noise is not transportable, and many of its effects are contained within the bounds of local government jurisdictions. Hence much of the basic responsibility for the control of noise should rest at the local level.

However, local authorities need to know the context within which their programs are set so that their standards are neither too high nor too low; local authorities should have some centre to which they can refer difficult technical problems relating to noise and obtain competent advice. Co-ordination between the provincial and local levels is essential to the success of any program for the control of noise and the creation of quiet communities.

PLANNING

The Council believes that the most effective way to control noise is through prevention. This means separating noise sources and the people who could be annoyed or disturbed by them, or the attenuation of noise before it impacts on sensitive receivers. One of the key ways to achieve this, identified by many briefs at the hearings, is through planning. The Council concurs in this view. Noise at present is not one of the factors that is explicitly taken into account in the preparation of regional plans, in subdivision approvals, or land use by-laws. The Council believes that noise levels can be forecast with the same level of accuracy as traffic flows, aircraft movements, or truck loadings. The Council therefore believes that noise should be considered in land use planning as explicitly as topography and traffic flows.

Recommendation 13

That Section 92 of the Planning Act be amended to include a provision for noise attenuation as part of a development agreement.

Section 92 of the Planning Act (RSA 1980 cP-9) presently gives a municipality the right to enter into agreements with developers to install such utilities as pedestrian walkways and off-street parking. When noise attenuation is needed to protect a residential subdivision, a municipality should be able to enter into an agreement with a developer to install or pay for the installation of noise-attenuation devices or employ design techniques where necessary, to achieve an acceptable level of quiet.

(See Section 4.6.3.)

Recommendation 14

That Section 8 of the Subdivision Regulation be amended to include noise from adjacent land uses.

Section 8 of the Subdivision Regulation under the Planning Act, 1977 presently reads: "In making a decision as to whether or not to approve an application for subdivision approval, the subdivision approving authority shall consider, with respect to the land that is the subject of the application..." following which is listed a large number of factors such as topography, soil characteristics, potential flooding, etc. A phrase should be added to this section to the following effect: "...the noise levels generated in the vicinity of the land that is the subject of the application." In this way, noise would be identified as a specific factor that must be taken into account before a subdivision is approved.

(See Section 4.6.3.)

Recommendation 15

That Section 6 of the Subdivision Regulation be amended to add the Director of the Quiet Communities Directorate to the list of authorities that review subdivision applications before approval.

Section 6 of the Subdivision Regulation presently reads: "Upon receipt of a completed application for subdivision approval, the subdivision approving authority shall send a copy of it to..." and then lists a large number of agencies and departments, such as school authorities and public utilities. The Director of the Quiet Communities Directorate should receive copies of the subdivision applications from

the subdivision approving authorities. This would provide an opportunity for the Quiet Communities Directorate to identify any noise problems likely to occur in the subdivision, and provide comment to the subdivision approving authority on the seriousness of the problem and whatever potential solutions seem to be appropriate.

(See Section 4.6.3.)

The effect of these actions would be to ensure that the noise factor is explicitly considered in the planning approvals process. They would provide for early identification of noise problems in the development of new residential communities. As it is easier to prevent rather than rectify noise problems, these measures should lead to the avoidance of many of the problems that presently exist.

Model Municipal Noise Control By-law

Recommendation 16

That a model municipal noise control by-law be developed for use throughout the province.

Noise is a problem which is predominantly local in its impact and frequently confined within the limits of municipal boundaries. However, municipalities approach the control of noise in different ways, with varying degrees of success, and find it difficult to identify the appropriate technical approaches to control noise. In view of the similarity of the problem within the municipalities, it seems practical to have uniformity in noise control while recognizing local differences where practical.

The Province of Ontario has found the solution to these problems in the development of a province-wide model municipal noise control by-law. This by-law comes in two phases. Phase one is a subjective by-law, intended for smaller towns and communities that lack technical resources and generally have only moderate problems with noise. This phase of the model by-law is simple to enact, easy to enforce, and readily understood. Phase two of the model by-law is more detailed and technical, requiring sophisticated measurements of sound levels and some technical capability to administer and enforce. This phase of the by-law is intended for larger municipalities where noise problems are severe and technical capabilities are available in the city staff.

A municipality can, within limits and with proper approval, choose the phase of the model by-law that fits its needs, and can remove clauses or phrases that do not seem appropriate to its individual situation. The Council was able to discuss this approach with municipalities in Ontario that have adopted the model municipal noise control

by-law and found them quite enthusiastic about its practicality and effectiveness. Some municipalities in Alberta requested such an approach at the public hearings.

(See Section 4.2.2.)

Recommendation 17

That, if a municipality adopts the model municipal noise control by-law in whole or in part, in the interest of uniformity the Director of the Quiet Communities Directorate must approve changes or modifications.

This policy would ensure that the approach to noise control does not vary too widely throughout the province. In cases of dispute, municipalities should have the right of appeal to the Minister responsible for the Quiet Communities Directorate.

(See Section 4.2.2.)

Recommendation 18

That training programs for municipal officials be part of the implementation of a model municipal noise control by-law.

One reason for the success of the Ontario approach is that the adoption of a model by-law was accompanied by seminars, workshops, and short courses which explained to civic authorities the nature of the provisions of the by-law and the actions that would be required, and made suggestions for its effective implementation. This educational component is an important reason why the model by-law has proven to be so effective and why so few problems have occurred with its implementation.

(See Section 4.2.2.)

The recommended model municipal noise control by-law for Alberta should be designed to meet specific conditions in this province. The Council believes this would be an appropriate task for the Quiet Communities Directorate.

ECONOMIC PROGRAMS

Economic programs seek to reward the creation of quiet and penalize the production of noise through some economic reward or penalty. They normally do not stand by themselves but are part of other programs.

An economic program developed by the Environmental Protection Agency seems to hold great promise – the "Buy Quiet" program. In essence, this program is educational, directed at purchasing agents for city, state, and federal governments as well as purchasing agents for private companies. It is based on the fact that there is a wide variation in noise produced by different brands of appliances, equipment, machines, or vehicles. Quite frequently the quietest piece of equipment is no more expensive than one which is noisier. The Buy Quiet program urges purchasing agents at all levels of government to include quietness as one of the specifications for any equipment purchased.

Recommendation 19

That the Quiet Communities Directorate be responsible for the implementation of a "Buy Quiet" program.

In Alberta, between municipalities and the provincial government, a considerable amount of equipment is purchased each year. If government purchasing agents indicated that they would give preference to quieter machines, this would provide a useful incentive for manufacturers to develop quieter equipment. If other provinces and the federal government were to join in this approach, the impact would be substantially enhanced.

Much equipment today is noisy because there is little or no incentive to make it quieter. If manufacturers knew that quieter equipment would have some advantage in the market, they would begin to adopt production methods that would reduce noise. The Council believes that a Buy Quiet program has important potential benefits for Alberta at relatively low cost.

(See Section 4.5.2.)

Land Economics

Recommendation 20

That the Quiet Communities Directorate become a centre of expertise in noise-related land economics.

Frequently, during the planning process the avoidance or reduction of noise is rejected by a developer as being too costly either because his land will be sterilized by leaving it empty to provide for noise attenuation by distance, or because the provision of berms and noise barriers to protect potentially subdividable land is too expensive. Similarly, the acquisition of homes along truck routes through existing residential areas is resisted or rejected by municipal councils because of the cost involved.

The land economics approac.. to these problems is to determine if other alternatives are available which would reduce noise and at the same time would not escalate the cost of housing or land acquisition. The principal methods used to achieve this objective are: changing the land use in areas adjacent to noise sources to less sensitive uses such as commercial or light industrial developments, and permitting higher density development adjacent to noise sources, in conjunction with special building designs (barrier buildings) which reduce noise for the residents of the high-density buildings as well as the residents in the remainder of the subdivision. The Quiet Communities Directorate would work closely with municipal authorities to identify where these approaches are appropriate solutions to particular planning problems.

Edmonton Municipal Airport

Recommendation 21

That the City of Edmonton give serious consideration to prohibiting regular use of the Edmonton Municipal Airport by large jet aircraft.

At the public hearings, the Edmonton Municipal Airport was identified as the single most disturbing noise source in the province. The major contributors to the noise problem are the Boeing 737 jets.

An approximately equivalent level of convenience to the commuting public could be provided by the use of quiet planes such as the Dash 7. Since the City of Edmonton owns the airport, City Council could achieve an acceptably quieter airport by prohibiting the use of large jets at the Municipal Airport. The City of Toronto has banned the use of all jets at its Island Airport. The Council does not believe that smaller business jets contribute sufficiently to the Municipal Airport noise problem to warrant their elimination.

(See Sections 3.1.3 and 4.5.1.)

Cost Sharing

Recommendation 22

That the provincial government share in the cost of noise attenuation or retrofit programs to the same extent that it shares in the cost of construction of provincial highways in municipalities.

Provincial highways are identified as a major noise source in Alberta. The Council believes that it is appropriate for the provincial government to share in the cost of

noise attenuation or retrofit programs to the extent that it presently shares in other aspects of a highway construction program. In other words, if the present cost sharing for a particular highway is 50 percent provincial and 50 percent municipal, the provincial government should share 50 percent of the cost of any noise-attenuation facilities that the highway requires.

(See Section 4.5.3.)

Redevelopment

Recommendation 23

That the province make low-cost loans available to municipalities for redevelopment as a solution to noise problems.

Though retrofit can be quite effective technically, it is an extremely expensive approach, and one which should be viewed as a last resort. The Council believes redevelopment is an appropriate approach where truck routes or provincial arterial highways cut through existing residential areas and create major noise problems. Though a change of use or an increase in density holds excellent promise of a long-term economic payoff, the so-called "up-front" costs are extremely high. This is because a number of properties must be purchased over a long period of time with potential problems of holdout or speculation, designs must be developed for the new uses that will replace those fronting on the noisy arterial, and the project must eventually be constructed. Such a project could take several years. However, one of the reasons that redevelopment is a preferred alternative is because the potential returns from the upgrading of land uses should be sufficient to cover the cost of the property and the special sound treatment required.

The Council believes that the province should make low-cost loans available so that a municipality is not inhibited by a shortage of funds from proceeding with redevelopment as a solution to noise problems, where this is the most cost-efficient solution to the problem.

(See Section 4.5.3.)

Compensation

Recommendation 24

That a greater reduction in assessment be made available for residential properties located next to a noise source.

Some municipalities already provide for a reduction in assessments of up to 15 percent if residential properties are located next to noise sources such as truck routes and arterial highways. The Council believes that this is a helpful approach and should be extended.

An equitable approach would be a 0.4 percent reduction in assessed value for each dBA Leq(24) over 55 dBA, with a doubling in the rate for each 5 dBA increase in sound levels. That is, up to 60 dBA the maximum assessment reduction would be 2 percent; to 65 dBA, the maximum assessment reduction would be 6 percent; to 70 dBA, 14 percent; to 75 dBA, 30 percent; and so on. The Council believes this would have two effects: it would compensate the homeowner for the loss of amenity value which is represented by a noisy situation; and it would create an incentive for the municipality to provide solutions to noise problems and thus prevent a reduction in assessed values.

(See Section 4.5.3.)

Recommendation 25

That the province compensate municipalities for assessment reductions resulting from a provincially supported highway.

In those locations where the assessment reduction is due to a provincially supported highway, the province should contribute to the municipality in the amount of tax revenue lost, in proportion to its cost sharing on the construction of the highway. However, the Council believes that the funds supplied by the province as compensation for lost assessment should be locked in; that is, they should be used for the construction of noise-attenuation devices or other approaches which would reduce noise levels and not for general revenue purposes.

(See Section 4.5.3.)

Recommendation 26

That when reduced assessments are allowed, a notice to this effect must be placed on the title.

Homeowners who take advantage of reduced assessments should also provide information on the noisy conditions to prospective purchasers through a notice on the title. The notice on the title would indicate that the building is located in a noisy area and that its assessed value has been reduced because of this fact.

(See Section 4.5.3.)

RESEARCH

Though much is known about noise, there is still much to be learned. The Council identifies the following as major areas where knowledge is lacking.

Extra-Auditory Effects

Recommendation 27

That medical research into the extra-auditory effects of noise be given high priority in Alberta's medical research programs.

There are tentative links between exposure to noise and major health effects such as cardiac and blood circulation problems and other stress-related symptoms. However, these links are neither clear nor well established. The Environmental Protection Agency provided funding to major medical research centres to identify these links and some very valuable results have been achieved. Unfortunately, further funding will not be made available in spite of the important advances made, particularly in establishing that it is a worthwhile area of research. We cannot rely, as we frequently do, on benefitting from American research. The health effects of noise are a frontier of medical knowledge. Alberta's growing medical research capabilities could allow us to become a world leader in this area.

(See Section 4.3.3.)

Monitoring

Recommendation 28

That long-term monitoring of urban noise levels be carried out.

There is little baseline data about noise levels in most Alberta communities. To establish the current situation, but more particularly to trace the future success or failure of noise control programs, long-term monitoring of noise levels is required. These noise surveys should establish noise contours in major Alberta communities. Subsequent surveys, perhaps every two years, would identify the extent to which noise impacts have increased, decreased, or remained stable.

(See Section 4.3.3.)

Recommendation 29

That long-term baseline data on the hearing capability of employees in Alberta industry be acquired and analyzed.

Hearing testing programs in industry can also provide a useful data base. Through analysis of records of audiometric testing, it would be possible to establish with some accuracy which Alberta industries are noisiest and where workers are protected inadequately. The potential for improving or modifying programs to protect hearing is directly related to the availability and accuracy of such records.

(See Sections 4.3.1 and 4.3.3.)

Loud Music

Recommendation 30

That studies be conducted to determine the effects of prolonged exposure to loud music.

There is considerable controversy and little evidence about whether prolonged exposure to loud music, particularly amplified music, leads to hearing loss. Specific studies are essential to identify whether a problem exists and to determine its nature and scale.

(See Section 4.3.3.)

Loss of Hearing in Higher Frequencies

Recommendation 31

That procedures be developed to protect hearing in the higher frequencies.

At present, hearing conservation programs are directed at the speech frequencies (generally 500 to 3000 Hz). Loss of hearing in the higher frequencies (4000 to 8000 Hz) is considered significant primarily as a diagnostic device (the early warning notch). Loss of hearing in the higher frequencies, while not incapacitating, reduces the quality of the sound we hear. Research is required so hearing conservation programs can begin before some hearing loss has been experienced.

(See Section 4.3.1.)

Building Standards

Recommendation 32

That studies be conducted to determine if the present sound transmission class ratings are adequate for multi-family dwellings and to assess the technical and economic implications of improving the standards.

Noise-attenuation standards for multi-family dwellings were established in 1941 when the National Building Code was first adopted. Forty years have passed since this standard was established and a number of countries have since adopted much higher sound transmission class (STC) ratings. Research is required to identify whether the 1941 standard is adequate for present day building conditions, whether higher standards are technically and economically feasible, and if so, the most appropriate method of implementation.

(See Section 4.4.3.)

NOISE IN THE WORKPLACE

Recommendation 33

That the primary responsibility for control of noise in the workplace remain with the Occupational Health and Safety Division.

The responsibility of the proposed Quiet Communities Directorate would relate primarily to problems of environmental noise. The control of noise in the workplace is also an important task and is presently the responsibility of the Occupational Health and Safety Division.

Alberta has as yet seen little evidence of the impact of occupational noise-associated hearing loss. This is because both the work force and the industries in Alberta are young, and because noise-induced hearing loss is not a sudden or dramatic ailment but the result of the accumulation of exposure to excessive noise over a working lifetime. The way to prevent noise in the workplace from becoming a major problem is to take action now.

The Council received briefs from a number of organizations, including representatives of the major labor unions in the province, which maintained that the standards presently established by the Occupational Health and Safety Division are not sufficient to protect the workers of Alberta from hearing damage. Having considered

this point very seriously, the Council is satisfied that the regulations that presently exist are sufficient to protect workers' hearing in the speech frequencies. The problem is not inadequate standards, but inadequate extension and enforcement of existing standards.

The best estimates that the Council received indicated that only 10 percent of Alberta workers are included in hearing conservation programs. This situation exists for several reasons:

1) Noise has not had a high priority in safety programs in many occupations. It has been considered one of the normal aspects of the occupation about which little or nothing can be done. This attitude is changing among both workers and employers as more knowledge becomes available.

2) With small budgets and a centralized operation, the most cost-effective method of establishing hearing conservation programs is to deal first with the large industries in the major urban centres.

3) Many of the major occupations in Alberta, such as the oil and gas and construction industries, are highly mobile. The companies move from site to site and the turnover rate among workers is high. These are the most difficult industries and occupations to reach with a hearing conservation program.

Though the Council appreciates the difficulty in enforcing and extending coverage, the current situation is dangerous to health and well-being and must be corrected. The Council therefore makes the following recommendations for extending coverage of hearing conservation programs.

(See Sections 3.2.1 and 4.3.1.)

Recommendation 34

That the Occupational Health and Safety Division explore the possibility of utilizing local health inspectors to enforce the regulations on noise in the workplace and develop hearing conservation programs.

Public health units and public health inspectors already provide blanket coverage throughout the province. Public health inspectors, due to the nature of their work, must visit small and widely scattered industrial and commercial operations. The addition of noise as one of the health hazards that they should consider would be an efficient use of an existing network.

(See Section 4.3.1.)

Recommendation 35

That noise counselling be a mandatory part of any audiometric testing program.

Audiometric testing provides a unique opportunity to tell workers about the nature and dangers of noise, the cumulative nature of noise exposure, and how to prevent hearing loss. Since all licensed audiometric technicians must take courses where the importance of counselling is stressed, it is probable that most hearing tests feature counselling. However, it would provide greater security if counselling were identified in the regulations as a requirement of any hearing test.

(See Section 4.3.1.)

Recommendation 36

That the Occupational Health and Safety Division develop hearing conservation programs to meet the needs of workers in industries with varying work locations.

The Council appreciates the difficulty that this recommendation presents and is mindful of the problems experienced by the Workers' Compensation Board in British Columbia in trying to follow employees as they move from job to job and from location to location. However, to say that it is administratively impossible to track such workers is to condemn a substantial number of Albertans to major hearing loss at the end of their working careers.

There are several government documents which presently follow workers from job to job and from location to location. One of these documents could include individual audiometric tests, which are essential for the protection of the worker from the cumulative impacts of noise in the workplace.

(See Section 4.3.1.)

Recommendation 37

That for particularly noisy industries, employers be required to develop a plan for noise abatement in the workplace.

The development of a plan to abate noise in the workplace should be left to the employer, who is most familiar with the operations and their financial impacts, and should be responsible for identifying how, over a period of time, a quieter workplace can be achieved. The plan should be reviewed and approved by the Occupational Health and Safety Division. Such a program is presently being undertaken by the

Workers' Compensation Board in British Columbia and seems to be effective and successful.

(See Section 4.3.1.)

Recommendation 38

That employees working in noisy taverns and discotheques be provided the same protection as any other worker in a noisy workplace.

One of the more conspicuous exceptions to hearing protection programs has been identified as the employees of noisy taverns and discotheques. These employees deserve the same level of protection as any worker exposed to noise in Alberta industry.

(See Section 3.4.1.)

ENERGY-RELATED FACILITIES AND NOISE

Recommendation 39

That noise levels be measured at the property line of an energy development.

The Energy Resources Conservation Board (ERCB) has an interim directive (ID-80-2) which should be revised. The Council suggests that Recommendations 39, 40, and 41 be considered when the regulation is redrafted. The directive stipulates that noise emanating from an energy resource development facility, such as a pumping station or drilling rig, shall not exceed a certain dB level when measured 15 metres from a nearby residence. This requirement has been an effective temporary measure and has reduced the noise conflict between the energy industry and residences. However, there are a number of difficulties with this approach, some at the technical level in relation to the measurement of sound, and some because of the possibility of residences being located in the noise-affected area after the fact.

(See Section 3.2.2.)

Recommendation 40

That permissible noise levels be lowered for permanent facilities.

There should be a difference between the noise levels that are tolerable for a temporary disturbance such as a drilling rig, and a permanent disturbance such as a

pumping station. As a result, the Council believes that improved noise standards are required for permanent facilities.

(See Section 3.2.2.)

Recommendation 41

That, in rural areas, a noise standard of 5 dBA Leq (24) above ambient noise levels be adopted.

Many energy-related facilities are located in rural settings. Rural areas normally have very low noise levels and the residents expect that these levels will be preserved. In cities it is normal to consider that a noise problem begins at 55 dBA. However, such levels would be completely out of place in many rural areas where the ambient noise level is 35 to 50 dBA, or lower. What seems to be required is a measure of intrusive noise level; that is, the extent to which the energy related development raises the ambient noise levels. The Council suggests that a permanent energy-related facility be no more than 5 dBA Leq (24) above the ambient noise level in the rural location, measured at the property line of the facility.

(See Section 3.2.2.)

ALTERNATE RECREATIONAL FACILITIES

Recommendation 42

That the provision of quiet and non-quiet public facilities be explored.

There has been a considerable trend in recent years to provide alternate facilities for smokers and non-smokers in public places. The Council believes that there are opportunities for exploring a similar approach in providing quiet and non-quiet public facilities. This approach applies particularly to parks, campgrounds, and recreation lakes, and could be achieved through design or by having a designated quiet area in one part of the park, separated from other areas where noise is less objectionable. Entire parks or recreation lakes could be designated as quiet parks or quiet lakes where motor vehicles or power boats would be prohibited. Alternatively, noisy pursuits such as trail bike riding could be zoned into one particular part of the park. Approaches such as these have been tried in the development of Kananaskis Country and their extension to other areas and situations is recommended.

(See Section 3.4.2.)

NOISE MEASUREMENT

Recommendation 43

That the use of dBA Leq be accepted as the standardized noise descriptor.

One of the problems in the noise field is the variety of noise descriptors used, each designed to fit a specific problem or situation. Standardization of noise descriptors is desirable for consistency and comparability. The National Research Council concluded that dBA Leq is the most appropriate standard noise descriptor.

(See Sections 3.2.2 and 3.6.2.)

ALLEVIATION OF TRAFFIC NOISE

The most frequent and persistent problem identified at the hearings was traffic noise. The Council does not believe there is one solution to traffic noise. Resolution of this problem will require many programs applied in a consistent and co-ordinated way. Each program will make a small contribution, and combined they can provide substantial relief.

Following is a summary of the Council's proposals relating to the reduction of traffic noise.

Reduce noise at the source, particularly from trucks.

This is primarily a federal responsibility but the province can persuade and lobby for higher noise standards. Through a Buy Quiet program, which creates a demand for quieter products, a direct impact can be achieved.

(See Sections 3.1.1 and 4.5.2.)

Adopt municipal noise by-laws under Section 16(1) of the Highway Traffic Act.

Through the adoption of municipal noise by-laws under Section 16(1) of the Highway Traffic Act (RSA 1980 cH-7) and adequate enforcement, noisy faults can be identified and the owners can be required to rectify the problems.

(See Section 3.1.1.)

Develop vehicle testing facilities.

Testing facilities should be available in major municipalities, so that suspected vehicle faults can be accurately and precisely identified.

(See Section 3.1.1.)

Fines for noise infractions or for ignoring instructions to rectify noise faults in vehicles should be sufficiently high to ensure compliance. Low fines tend to be regarded as just another cost of keeping cars on the road, and do not lead to a solution of noise problems.

Adequate enforcement of the Highway Traffic Act.

Adequate enforcement of the Highway Traffic Act will help reduce squealing tires, stunting, and other poor driving practices that produce excessive noise.

(See Section 3.1.1.)

Use techniques to reduce noise on heavily travelled roadways.

Several approaches which will help reduce noise on heavily travelled roadways are: using special road surfacing to reduce tire noise, decreasing the number of traffic signals, and promoting free, steady traffic flow with little need for gearing up or down.

(See Section 4.4.1.)

Improve land use planning.

Noise should be taken into account explicitly as a factor in land use planning. Heavily travelled traffic routes and good residential areas are incompatible, and they should be separated. Where they cannot be separated, the use of depressed roadways, berms, noise fences, and special surfacing for roads should be considered part of the essential cost of constructing new highways or reconstructing old ones. The costs of these facilities should be shared between the province and the municipality in programs similar to those used for other highway construction costs.

(See Section 4.6.1.)

Use barrier buildings.

In particularly difficult situations, the use of barrier buildings should be considered. The province should make low-cost loans available to municipalities to meet the formidable front end costs of this solution. However, the possibility of higher density or higher value reuse holds promise that such redevelopment would recover the costs of land acquisition and replotting.

(See Sections 4.5.2 and 4.5.3.)

Introduce assessment reductions.

As an incentive to municipalities to avoid or overcome traffic noise problems and as a partial compensation to residents who suffer from traffic noise, an extended scheme of reduced assessments should be provided, on a sliding scale with the greatest reductions available to those who suffer the most from noise. Reduced assessments should only be available for residentially zoned areas.

(See Section 4.5.3.)

None of these approaches is sufficient by itself to solve the traffic noise problem. Each problem area will require a unique solution, tailored to that particular situation. The development of unique solutions to individual problems should be a principal task of the Quiet Communities Directorate, which at the same time should strive to achieve actions that will reduce problems with traffic noise overall.

Appendix B

Annual Reports of the Public Advisory Committees

ANNUAL REPORT OF THE CO-ORDINATING COMMITTEE

Report from the Chairman – Mr. Ron Whistance-Smith

During the past year, I was unable to attend three of the 12 monthly meetings due to illness and other commitments. I owe a great deal of thanks to Joe Shemanchuk, my vice-chairman, and to Martha Kostuch, our past chairman, for chairing those meetings I missed. I owe even more to Betty Meier, who kept things humming along during my absence last winter and who so faithfully kept me informed and kept me working at those things which required my attention during the year.

I would also like to thank Bill Flook for his work for PAC during the year – for keeping us on the straight and narrow when we were in danger of going astray, for providing expert comment in those areas where he felt confident to contribute, for drafting letters which needed to be sent, and for bringing to my attention areas or topics which he felt I should be aware of. He was a great help to me in getting through this year.

I would like also to thank other members of the ECA staff who contributed to our efforts this past year, and the ECA and through this body, the Government of Alberta for making available to us the resources to continue our work on behalf of the people of Alberta.

I would also like to thank the Study Group chairmen, the chairmen of SAC and EEAC, and the members of these committees for the time and effort they spent working for a better environment, both natural and man-made, for the residents of this province. I would especially like to note here the good work done by the rejuvenated Energy Study Group, and the work of the Membership Committee, which has resulted in an increase in PAC membership to 132 constituent organizations. And finally, to Ken Nelson, my thanks for his contribution to PAC's work and his effectiveness through the PAC newsletter and media coverage.

During the year, we met several times with Mr. Cookson and in these meetings there was a valuable interchange of information. We discussed with him amendments to the Clean Air Act, hazardous waste management, sewage disposal facility financing policy, sour gas plants, and other topics.

During the year, the Chairman represented PAC in a number of media interviews, at one ERCB hearing, at the REDA Introductory Leadership Workshop in Banff, and at a public consultation meeting held by Environment Canada.

A number of things happened during the year which have stimulated activity in PAC Study Groups. Among these were the release of the Alberta government's Water Management Committee Report, the Canada West Water Report, the announcement by our government that work would proceed on the Slave River hydro project, and the ERCB's Report No. 82-D. Further, after long years of trying to define the problem, the ECA began the process (through holding public information meetings and the publication of information brochures) of holding public hearings into maintaining and expanding the agricultural land base in Alberta. PAC members were urged to get involved in these hearings. Unfortunately, the call for a provincial election has again delayed these hearings.

During this past year, we had a positive response from the City of Edmonton to the Co-ordinating Committee's request for broadcast alerts on the where and when of spraying of insecticides in the city. This action followed a series of incidents in which members of the general public were sprayed without prior notice or opportunity to avoid the target areas.

The culmination of our year's work is here in the form of resolutions to be sent primarily to ministers and agencies of the Government of Alberta on behalf of the people of Alberta. I would like to note that a number of these resolutions seek to have the Government of Alberta spend money on preventive medicine for the environment. It is our hope that by treating the disease instead of the symptoms the people of Alberta will not have to suffer the ravages of illness and the sickness of the spirit which result from a degraded environment. In reducing these illnesses, we recognize that the expense to the public purse through the health care system will be reduced, and lost work time and productivity will be reduced. It is almost universally accepted nowadays that money spent at the front end; that is, in preventive medicine, is going to be much less than that necessary to cure the illness.

At the time of writing this report, the PAC brochure had just gone to the printers and all being well, copies of the brochure will be available at the Annual Joint Meeting. It is our sincere hope that this brochure will tell our story far and wide and spark an even greater interest in the work of PAC.

Ron Whistance-Smith
Chairman, Co-ordinating Committee

Members of the Co-ordinating Committee

Chairman – Mr. Ron Whistance-Smith
Vice-Chairman – Mr. Joe Shemanchuk
Past Chairman – Dr. Martha Kostuch

Study Group Chairmen:

Environment Protection – Dr. Guy S. Swinnerton
Urban Environment – Dr. T.S. Bakshi
Resolutions Committee – Mr. Bob Richardson
Non-Renewable Resources – Mr. Chris Dunkley
Renewable Resources – Dr. Charlie Wood
Energy Conservation – Mr. Chris Walker
Pollution – Mr. Lub Wojtiw

Science Advisory Committee – Dr. Terry Veeman
Environmental Education Advisory Committee – Mr. Bill Batycky

ANNUAL REPORT OF THE ENVIRONMENTAL EDUCATION ADVISORY COMMITTEE

Report from the Chairman – Mr. William P. Batycky

The past year has been a very successful one for the Environmental Education Advisory Committee. A number of items were completed during the year as well as a number of new projects being initiated.

1) The materials for the package on private sewage disposal (requested by the Pollution Study Group) were completed, assembled and distributed to the members of PAC and to the MLAs. The package contained:
   - the issue of *Environment Views* dealing with private sewage disposal
   - the Public Health pamphlet on sewage system installation
   - covering letter
   - Action Paper
   - MLA list with a note where people can call to verify a number

2) An abstract of *Attitudes Toward The Environment: A Comparison of Six Surveys Spanning Six Years* by M. Kelly was prepared. This abstract, entitled "Environmental Policy and Decision Making: Directions from the Public for the Eighties," is to be distributed, along with a covering letter, to the members of PAC and to the MLAs. Also, the abstract, a covering letter, and an announcement card (re: M. Kelly's analysis of six environmental surveys) is to be distributed to the executives of the A.U.M.A. and the A.A.M.D.& C.

3) Preliminary meetings were held to assess industry support for teacher inservice on topics relating to the environment.

4) At present, consideration is being given to:
   a) strategies for liaison with other bodies concerned with environment education,
   b) strategies for assessment of existing environmental education programs,
   c) methods to bring about greater "general" environmental awareness and care on the part of the "publics," and
   d) priorizing issues and topics that could be the focus of issue-based public awareness programs.

I would like to give my sincere thanks to all members of the EEAC for their support and quality participation in this past year's program. We have enjoyed excellent support from PAC and its Study Groups and from the staff of the ECA who have provided us with assistance as required. A special thanks to the PAC Secretariat and Betty Meier – they are to be commended for the efficient and professional manner in which they carried out their responsibilities. Many were the times that Betty Meier and her staff went beyond the call of duty to facilitate the work of the Environmental Education Advisory Committee. I would also like to thank Elaine Kaiser for her excellent support.

William P. Batycky
Chairman, Environmental Education Advisory Committee

Members of the Environmental Education Advisory Committee

Chairman – Mr. William P. Batycky
Mr. Erich Berndt
Mrs. Pam Campbell[+] – Representing Pollution Study Group
Mrs. Jan Crook
Dr. Sheri Dalton – Representing Urban Environment Study Group
Mr. Graham Doherty
Mrs. Joy Finlay – Representing Energy Study Group
Mr. Dave Gemmill – Representing Pollution Study Group
Mr. J. Glazier – Representing Environment Protection Study Group
Dr. Julian Guay
Mrs. Betty Hunter – Representing Non-Renewable Resources Study Group
Mr. Lee McKibben
Mr. George Shaw
Mr. Terry Shewchuk – Representing Renewable Resources Study Group
Mr. Al Smandych

Dr. Bob Westbury
Mr. Warren Wismer*

* No longer on EEAC
+ Attended Study Group as alternate

ANNUAL REPORT OF THE SCIENCE ADVISORY COMMITTEE

Report from the Chairman – Dr. Terry S. Veeman

The Science Advisory Committee met on March 19th and October 1st, and will hold its final meeting for 1982 on December 17th.

There have been many issues before SAC this year from the Study Groups, the ECA, and originating within the committee itself, which resulted in the following discussion and action being undertaken.

1) Reviewed the article in *Science* entitled "Cancer Mortality in U.S. Counties with Petroleum Industries" and met with Dr. Herb Buchwald (Managing Director, Occupational Health and Safety Division, Workers' Health, Safety and Compensation) and his staff team to discuss questions of cancer mortality, cancer vulnerability, and cancer monitoring in Alberta.

2) Continued monitoring several water resource management issues in Alberta including:

   a) discussion of the Report of the Water Advisory Committee (Kroeger Report), including the development of a short critique of this document by Dr. Arleigh Laycock, which may serve as a basis for further action by the ad hoc Committee on Water Management.

   b) discussion of the Alberta Environment document "Water Resource Management Principles for Alberta," which led to the initiation of action to attempt to bring the Wright-Mansell Report (on benefit/cost analysis) into the public domain and to begin a dialogue with Alberta Environment officials on a water conservation and pricing policy.

c) discussion of the possible development of a SAC-initiated Water Management Policy Statement for the Province, this being deferred for the moment but remaining an option that SAC, through the ECA, might commission.

d) review by SAC of the Slave River hydro feasibility study, which is still under way.

3) Reviewed the draft guidelines set out by the federal government for the preparation of an Environmental Impact Statement on the Slave River hydro-electric power development and commissioned Dr. Dixon Thompson, as a representative of SAC, to present a brief to the hearings of the federal Environmental Assessment Panel, Edmonton, October 7th.

4) Monitored further developments in the following areas where SAC had previously been involved: Blackfoot Grazing Reserve, hazardous waste management, and the Pincher Creek health study.

5) Initiated a review, at the request of the Pollution Study Group, of the most recent document on nuclear energy for the Alberta tar sands.

6) Began reviews of the article "Can Science Deal with Environmental Uncertainties?" (*Conservation Foundation Letter,* January 1982), and ERCB Report 82-D, *Sour Gas Processing in Alberta,* both to be discussed further at our December meeting.

7) Formed the ad hoc Committee on Maintaining and Expanding the Agricultural Land Base in Alberta (Dr. F. Bentley, Dr. W. Phillips, Dr. W. Pettapiece, Mr. N. Giffen, and Dr. T. Veeman) which is beginning review of ECA documents on land use.

8) Reviewed and provided comments on the 1982 PAC Resolutions.

During the coming year, land and water management issues are likely to be the focus of SAC's attention, particularly if the upcoming hearings on maintaining and expanding the agricultural land base in Alberta get an early start and if public interest continues to be centred on the Slave River issue. SAC wishes to acknowledge the excellent support assistance of the PAC Secretariat – in particular, Ms Betty Meier (who we wish well in her new position after her very dedicated service to us), Ms Elaine Kaiser, and Ms Joyce Degelder.

Dr. T.S. Veeman
Chairman, Science Advisory Committee

Members of the Science Advisory Committee

Chairman – Dr. Terry S. Veeman – Department of Economics,
University of Alberta
Dr. C.F. Bentley – Department of Soil Science, University of Alberta
Dr. S. Dalton – Concordia College
Dr. B.P. Dancik – Department of Forest Science, University of Alberta
Dr. R.W. Davies – Department of Biology, University of Calgary
Prof. P. Dranchuk – Department of Mineral Engineering,
University of Alberta
Dr. W.A. Fuller – Department of Zoology, University of Alberta
Dr. H.W. Habgood – Alberta Research Council
Dr. J. Hackler – Department of Sociology, University of Alberta
Ms L. Horstman – Canadian Society of Environmental Biologists
Dr. R.P. Lane – Environment Canada
Dr. A. Laycock – Department of Geography, University of Alberta
Dr. P. Mahaffy – Department of Chemistry, King's College
Dr. R.P. Pharis – Department of Biology, University of Calgary
Dr. E. Prepas – Department of Zoology, University of Alberta
Mr. L.D. Rae* – Barrister and Solicitor
Dr. F.W. Schwartz – Department of Geology, University of Alberta
Dr. D. Thompson – Department of Environmental Science,
University of Calgary
Dr. W.H. Vanden Born – Department of Plant Science,
University of Alberta
Mr. W.D. Wishart – Fish and Wildlife Division,
Alberta Energy and Natural Resources

* No longer on SAC

ANNUAL REPORT OF THE MEMBERSHIP COMMITTEE

Report from the Chairman – Mr. W.A. Flook

For the year 1982 your membership committee consisted of Mrs. Betty Hunter, Mr. Graham Norman, and myself as chairman.

Meetings were held on February 11th and September 2nd, and a number of more routine matters were settled by telephone conferences between myself and the committee members.

The membership list was under constant review throughout the year and updated lists were issued in February, April, June, September, and December.

During the period the following 15 members resigned from PAC:

Ms Esther Almela
Mr. Ken Crane
Ms Kathy Doherty
Mr. Tyman Donkersgoed
Mr. Cyril Dubeau
Mr. Louie Halfe
Mr. Bob Hollingshead
Ms Brenda Jackson
Mr. Mike Lorencz
Ms Diane McColl
Dr. Michael Muc
Mrs. Betty Paschen
Mr. Tom Priddle
Mr. Jack Van Eerde
Mrs. Olly Webb

To these, as well as Doug Rae who resigned from SAC, and Warren Wismer who left the education committee, I wish to tender our sincere thanks for their services and best wishes for success in their future endeavors.

Six new associations were added to the growing list of PAC constituents and they supplied members as follows:

Bow River Water Users Association – Mr. R.T. White
Canadian Nature Federation – Mrs. Maryhelen Posey
Fort Saskatchewan – Regional Industrial Association – Mr. F.J. Morum
Grande Prairie Chamber of Commerce – Mr. Brian McDonald
Lloydminister Chamber of Commerce – Mr. J. Weaver
Urban Development Institute of Alberta – Mrs. Mary Oldring

We also issued invitations to the following groups who have not yet responded:

Boy Scouts of Alberta
Girl Guides of Alberta
Lethbridge Chamber of Commerce
Medicine Hat Chamber of Commerce
Red Deer Chamber of Commerce

We hope that we will soon be adding their representatives to the ranks of our members.

The Science Advisory Committee added:

Dr. Sheri Dalton
Dr. Bill Fuller

Dr. Bob Lane
Dr. Peter Mahaffy

and to all of these new members we wish to offer a sincere welcome.

Each year a number of members whose terms expire are willing to undertake an additional term of service. We feel especially indebted to these public-spirited people and our congratulations and compliments are therefore offered to the following on their re-appointment:

Mr. Don Broughton
Dr. Harvey Buckmaster
Mr. Gordon Cameron
Dr. M.H. Chaudhry
Dr. Bruce Dancik
Mr. Chris Dunkley
Dr. Jim Hackler
Mrs. Carol Hooks
Mrs. Betty Hunter
Mr. Bill Kergan
Dr. R.P. Pharis
Dr. Arleigh Laycock
Mr. Ray Romanetz
Mr. Bill Ross
Dr. Robert Scace
Mr. George Shaw
Mr. Joe Shemanchuk
Mr. Mike Slomp
Mr. George Stewart
Dr. Guy Swinnerton
Dr. Bill Vanden Born
Mr. Andy Wierenga
Dr. Charlie Wood

At the end of the year, the roster stood at 185 members including alternates and unaffiliates, representing 121 separate organizations. Of these, 20 were members of the Science Advisory Committee and nine were members of the Environmental Education Advisory Committee.

Mr. W.A. Flook
Chairman, Membership Committee

ANNUAL REPORT OF THE ENERGY STUDY GROUP

Report from the Chairman – Mr. C.G. Walker

The Energy Study Group was established at the beginning of 1982 to succeed the Energy Conservation Study Group which met jointly with the Non-Renewable Resources Study Group during 1981. It was decided to expand our area of interest as energy conservation alone was considered to be too narrow a topic when there are so many issues relating to energy in general in Alberta at the present time. The terms of reference for the group are:

1) to investigate issues concerning energy as they relate to the Province of Alberta;
2) to consider any other issues suggested by the Study Group members, the Co-ordinating Committee, or the Environment Council of Alberta;
3) to refer new issues suggested by the Study Group members to the Co-ordinating Committee for allocation;
4) to inform itself about issues within its area of interest;
5) to make recommendations for the correction and/or prevention of environmental problems within its area of interest, for example, resolutions, writing letters, etc.;
6) to set priorities for those issues suggested by the Co-ordinating Committee; and
7) to plan the program for the year.

At our first meeting in February, it was decided that we would address the following topics:

1) emergency energy supply
2) formal and informal energy education
3) power generation and distribution.

Our investigation of emergency energy supply was prompted by last winter's "deep freeze" in that many of the group were concerned as to what would happen in the case of prolonged failure of the electrical and/or natural gas supply to our homes. At our March meeting, Mr. Tom Brown of the Gas Utilities Division of Alberta Utilities and Telephones gave us a very detailed and reassuring description of the back-up system in place for rural natural gas supplies. Most systems in the province are "looped" so that they are not dependent on a single source. Therefore, generally speaking the only weak link is the unduplicated line which runs from the street into the individual residence. However, there are relatively few problems with these lines and what problems there are can be fixed easily and quickly. Where there are problems of loss of supply to an entire community, one of three "propane air" units on a flatbed trailer can be sent from Edmonton or Calgary to provide a temporary supply. (Propane mixed in certain proportions with air can be used in furnaces that normally use natural gas.) In the recent explosion of a natural gas pumping station near Princess, all three of these units were sent to provide a temporary supply. Mr. Bill Laing of CBC TV attended this meeting and consequently Edmonton CBC had a news story on this topic.

At our April meeting, we continued with our emergency energy topic by having Mr. Jerry Manegre of Northwestern Utilities and Mr. Ken Rowes of Edmonton Power speak about urban back-up systems. Mr. Rowes noted that electrical supplies in urban areas are "looped" to avoid reliance on one source and that there are well established and tested procedures to handle emergencies. The entire system is heavily over-designed to cope with all possible combinations of problems. Edmonton is tied into a provincial grid and when demand across Alberta exceeded supply, automatic load-shedding equipment would first drop non-essential users and then decrease power to all users gradually. Joint procedures for emergencies have been developed with Northwestern Utilities to deal with the fact that most natural gas furnaces require an electrical supply to operate. Mr. Jerry Manegre outlined the situation for natural gas. As with the electrical supply, there are very elaborate emergency procedures and back-up systems that can be brought into place relatively quickly. He described the recent Millwoods emergency where the danger of leaking propane gas being ignited by furnace pilot lights necessitated cut-off of natural gas supply and evacuation of about 25,000 people.

At our May meeting, we concluded our discussion of emergency energy supply with a talk from Mr. Fred Homeniuk of the Energy Resources Conservation Board on long-term planning for electricity supply in Alberta. He gave a very detailed and reassuring outline of the various factors involved, the options for electrical supply, and the planned additions to the electrical supply system in the future. He even went to the trouble of preparing a typed version of his presentation which I can give to anyone who is interested.

As a result of our three meetings on emergency energy supply, the Study Group has concluded that Albertans are very well looked after in comparison even to most other provinces in Canada. There is certainly no need for a resolution on this topic.

Our June meeting was used to catch up on housekeeping matters and for the chairman to describe his report on the Energy and Water Resources course he attended on behalf of the Energy Study Group. This was an excellent and very informative course. Copies of this report are available. No meetings were held in July or August.

In September, we heard from the following on formal and informal energy education:

Mr. Daniel Stoker
Manager, School Programs
Energy Conservation Branch
Alberta Energy and Natural Resources

Mr. Reg J. Houghton
Environmental Education Co-ordinator
Alberta Education

Mr. Graham Doherty
Energy Consultant
Calgary Public School Board

Mr. Hugh Phillips
Program Director
SEEDS Foundation

Mr. Dan Stoker gave the Study Group an insight into where energy conservation fits into the elementary school curriculum. He demonstrated and explained the various methods used to convey the energy conservation issues to elementary school students.

Mr. Reg Houghton gave a brief overview of his job as Environmental Education Co-ordinator. He also discussed ways in which environmental issues can be integrated into a teacher's existing curriculum instead of creating a completely new one.

Mr. Graham Doherty illustrated how energy conservation ideas have been conveyed to students in Calgary public schools and how this has had a positive impact on the students.

The Study Group was given an insight into the SEEDS Program by Mr. Hugh Phillips. He illustrated the materials SEEDS uses to promote environmental awareness, including the need for energy conservation, in the schools across the country.

The Study Group was very impressed with the amount of work being done in terms of educating children in the school system. We are concerned that adults have a similar level of "energy consciousness" as is now being instilled into children. We put together a resolution to this effect only to find that the Alberta Government had just started a series of newspaper advertisments ("Catch the spirit") and radio spots to do just what we were about to suggest. How about that for an immediate response – even before we sent the resolution! We have however put forth a resolution asking that all provincial government buildings incorporate energy-conserving technology to follow the practice of the more enlightened part of the private sector and to set a good example for the general public.

At our November meeting, we began to address the issue of a power generation and distribution strategy for Alberta, particularly as it relates to the proposed Slave

River hydro-electric development. This topic will continue into 1983. Our work on the Slave River project will be done in concert with the Renewable Resources Study Group and the Environment Protection Study Group in preparation for a common Public Advisory Committee position on this item. Due to the small size of the group, we are endeavoring to recruit additional members. We therefore invite any member who wishes a change of pace to consider joining our group.

C.G. Walker
Chairman, Energy Study Group

Members of the Energy Study Group

Chairman – Mr. Chris Walker – Alberta Association Canadian Institute of Planners
Mr. Gordon Cameron – Edmonton Chamber of Commerce
Mr. D.A. Clarke – SAIT
Mrs. Joy Finlay – Outdoors Unlittered
Mr. R. Ireland – YWCA
Ms Brenda Jackson* – YWCA
Dr. F. Kozar* – Grant MacEwan Community College
Mr. Dan MacIsaac – University of Alberta, Students' Union
Mr. I.D.F. Shaw – Unaffiliated
Mr. J.E. Staples – Association of Professional Engineers, Geologists and Geophysicists of Alberta
Mrs. Pat Weber+ – Outdoors Unlittered

* No longer on Study Group
\+ Attended Study Group as alternate

ANNUAL REPORT OF THE ENVIRONMENT PROTECTION STUDY GROUP

Report from the Chairman – Dr. Guy S. Swinnerton

After two years as a very enthusiastic and capable chairman of the Environment Protection Study Group, Dr. Graham Griffiths left the Study Group to become a member of the Pollution Study Group. During the first meeting of the new year in January 1982, Dr. Guy S. Swinnerton was elected chairman of the Environment Protection Study Group and, at a subsequent meeting, Mr. Bob Richardson was elected vice-chairman.

The Study Group met on eight occasions during the year. Unfortunately, attendance at meetings, particularly in the early part of the year, was disappointing. An explanation for this situation may be the effect of changing the day for meetings from a Saturday to a Monday, a decision which, although receiving the approval of the majority of the members of the Group, did not reflect everybody's preference. The absence of members at these initial meetings in the new year was unfortunate bearing in mind the interesting and topical issues that the Study Group had identified as areas worthy of attention during the year. There is no doubt that the formulation of a year's program in advance not only ensured an integrated focus for the Study Group but also aided the PAC Secretariat in arranging for guest speakers. Rural land use was identified as the major theme for the year and the individual meetings reflected this focus. Six of the meetings featured guest speakers dealing with the following rural land-use topics:

1) February 15, 1982: Mr. Norman Giffen (Executive Director, Edmonton Metropolitan Regional Planning Commission) and Mr. Jim Visser (Chairman of TOPSOIL) spoke on the topic "Loss of Land to Urban Growth" with particular reference to the conversion of agricultural land to urban use in the Edmonton region.

2) March 15, 1982: Mr. Barry Clark (Planning Manager, Municipal Division, Edmonton Metropolitan Regional Planning Commission) and Mr. Cam Finlay (Past President, The Council of Alberta Rural Ratepayers Association) addressed the issue of country residential development.

3) April 19, 1982: Mrs. Diane Griffin (Natural Areas Co-ordinator, Land Management and Development Branch, Alberta Energy and Natural Resources) and Mr. Murray Turnbull (Director, Land Management and Development Branch, Alberta Energy and Natural Resources) discussed grasslands management which provided some very useful background material for the May meeting.

4) May 17, 1982: Mr. Abner Grover (Chairman, Special Areas Board), Mr. Pat Rutledge (Member, Special Areas Board), Mr. Cliff Wallis (Alberta Wilderness Association) and Mr. Ron Gladish (Vice-President, Alberta Fish and Game Association) examined the issue of the Special Areas land sale.

5) June 21, 1982: Ms Cathy Schreiner (Biophysical Planner, Red Deer Regional Planning Commission), Mr. Ted L. Dykstra (Senior Regional Planner, Planning Division, Alberta Environment) and Mr. C. Ernie Stenton (Head – Sport Fish Management, Fish and Wildlife Division, Alberta Energy and Natural Resources) spoke on the topic "Access to Waterbodies."

6. September 20, 1982: Mr. Ed. C. Wyldman (Director, Resource Planning Branch, Alberta Energy and Natural Resources) and Mr. Paul Skydt (Director, Planning Branch, Design and Implementation Division, Alberta Recreation and Parks) discussed recreation zone policy in the Eastern Slopes.

As a result of these meetings, formal resolutions were prepared on public access to waterbodies and the need for greater co-ordination of interdepartmental recreation policy planning, program development, and resource management. in addition, the Study Group's concern regarding the sale of land in the Special Areas from the standpoint of the ecological significance of parts of the area and the land-sale process was expressed in a letter to the minister responsible for the area, the Minister of Municipal Affairs. The meeting concerned with changes in the Eastern Slopes policy received considerable publicity.

During the year, correspondence has also taken place with the relevant ministers regarding integrated resource management of grazing reserves and development in Kananaskis Country. In addition, a brief was submitted to Parks Canada, Western Region, in connection with the Marmot Basin ski area long range proposals. The Study Group has also continued to monitor developments associated with the Odyssey Project, the Blackfoot Grazing Reserve and the proposed alignment of the Grande Prairie/Grande Cache road, and the environmental impact of the proposed Slave River hydro project has been identified as a major area of concern for the coming year.

As chairman of the Study Group, I should like to express my sincere thanks to those members who have attended meetings and supported this year's program. Grateful appreciation is also extended to the ECA staff, particularly Betty Meier, former Executive Secretary to PAC, for their assistance throughout the year.

Dr. Guy S. Swinnerton
Chairman, Environment Protection Study Group

Members of the Environment Protection Study Group

Chairman – Dr. Guy S. Swinnerton – National and Provincial Parks Association, Edmonton Chapter

Mrs. Sheila Abercrombie* – Unaffiliated
Mrs. L. Allison – Foothills Protective Association
Mr. J. Arruda – Canadian Union College, Student's Association
Ms S. Blazina* – Olds College Students' Council
Mrs. D. Broadbent – Federation of Alberta Naturalists
Mr. A. Chanin – Calgary Chamber of Commerce
Mr. K. Crane – Coal Association of Canada
Mr. G. Dixon – Western Stock Growers' Association
Mr. C. Dubeau* – Alberta Beekeepers' Association
Mr. C. Fabris – Red Deer College
Dr. R. Gehrke – Alberta Chiropractic Association
Mr. J. Glazier – Alberta Association of Municipal Districts and Counties
Dr. Graham Griffiths* – Unaffiliated
Mr. Elmer Ghostkeeper* – Federation of Metis Settlements
Mrs. P. Kariel – Sierra Club of Alberta
Mr. B. Kolenosky – Northern Alberta Association of Biological Science Technicians
Mrs. B. Laychuk – Calgary Local Council of Women
Mr. R. Lightning* – Indian Association of Alberta
Mr. R.D. McKenzie – Alberta Beekeepers' Association
Prof. B.J. Mundel-Atherstone* – University of Lethbridge
Mr. R. Proudfoot – N.A.I.T.
Mr. R. Richardson – Canadian Manufacturers' Association
Dr. R. Scace – Unaffiliated
Mr. P. Seymour – University of Alberta
Mr. M. Slomp – C.J.L. Foundation
Mr. E. Stolarchuk – Keyano College
Mrs. D. Whitenett – Alberta Women's Institutes

* No longer on Study Group

ANNUAL REPORT OF THE NON-RENEWABLE RESOURCES STUDY GROUP

Report from the Chairman – A. Chris Dunkley

Since our last annual joint meeting, this Study Group has held nine meetings. I would like to record my thanks to the members of this Study Group for their loyal support and contribution to the work undertaken during this year.

A year ago, Professor Alastair R. Lucas kept us very well informed on the impact of environmental regulations on major oil and gas projects. This year his involvement in a review of Alberta's environmental impact assessment process provided us with an opportunity to zero in on this area of concern. A series of very interesting meetings resulted.

In January, Mr. Gerry DeSorcy, Vice-Chairman of the ERCB, provided a detailed explanation of the processing of an application. Professor Lucas emphasized the deficiencies in the application process and highlighted the recommendations put forward in the report on the review of Alberta's environmental impact assessment process.

In February, Mr. Ken Smith, Director of the Environmental Assessment Division of Alberta Environment, provided us with an excellent slide-illustrated presentation of Alberta Environment's role in the environmental impact assessment process and its relationship to the ERCB.

Again Professor Al Lucas made reference to the recommendations in the report on the review of Alberta's EIA system so that Mr. Smith could comment for clarification. Mr. Ed Brushett of the ERCB provided further clarification of concerns expressed.

In March, Ian Rounthwaite, Associate Professor, Faculty of Law, University of Calgary, provided a detailed review of the Saskatchewan Environmental Assessment Act.

Professor Al Lucas then introduced several resolutions for consideration by the Study Group, in an effort to summarize the essence of the three meetings dealing with the environmental impact assessment process in Alberta. Several of these motions are to be presented for your consideration at the annual joint meeting.

Last December, Dr. W.J. Byrne and Dr. Paul Donahue of the Archaeological Survey of Alberta gave us an excellent report on the effectiveness of this legislation, which proved to be very well received.

The Study Group decided to obtain the viewpoint of the industries having to work with the Archaeological Survey in Alberta.

At our April meeting, Mr. Murray D. Rogers, Manager of Right-of-Way Planning and Operations for TransAlta Utilities and Mr. Harold Berg, Manager of Edmonton-Estevan Operations with Gulf Canada Resources Inc. gave excellent presentations on the impact of archaeological survey regulations on the electrical utilities, and on oil and gas operations respectively. Both Mr. Rogers and Mr. Berg agreed that the impact on industry of the Alberta Historical Resources Act was very minimal and that the benefit and purpose of the Act was wholeheartedly supported by industry.

In September, Dr. Jack Clement, Senior Environmentalist with Syncrude Canada Ltd. gave us an excellent presentation on the Oil Sands Environmental Study Group report on long-range transport, transportation and deposition of air pollutants from the Alberta oil sands plants.

In October, Mr. Marcel J. Chorel, Director of Generation Planning, and Mr. W.A. Hosie, Manager of Transmission Planning, both with TransAlta Utilities Ltd., gave us a very thorough assessment of TransAlta's long-range generation and transmission plans.

In November, Mr. Jerry Joynt, Director of Public Affairs, and Mr. James Popowick, Project Manager for the Genesse Mines, both with Fording Coal Limited, gave us a very thorough explanation of Fording's operations while speaking on the subject: Fording's Solutions to Environmental Problems.

Since Alberta is blessed with bountiful coal resources, coal mining and thermal generation of electrical energy will play a major role in the future industrial growth of this province. These two presentations gave us a much better appreciation of the environmental awareness and economic importance of this industry.

I commend the educational value of this year's program of study and feel sure that the enthusiasm of our Study Group will assure a successful year in 1983. Finally, on behalf of this Study Group, I would like to commend Betty Meier for the quality of her work and for her sincere enthusiasm and dedication to our program during the years she served us as our Executive Secretary.

A. Chris Dunkley
Chairman, Non-Renewable Resources Study Group

Members of the Non-Renewable Resources Study Group

Chairman – Mr. A. Chris Dunkley – National and Provincial Parks Association, Calgary/Banff Chapter
Mr. Don Broughton – Oil Sands Environmental Study Group
Mr. G. Cameron – Edmonton Chamber of Commerce
Mr. A. Dickson – United Grain Growers Limited
Mr. G.T. Dudley – Alberta Irrigation Projects Association
Mr. H. Fauser – Alberta Fish and Game Association
Mrs. E.S. Hunter – Consumers Association of Canada
Mr. Roy Jensen[+] – Alberta Irrigation Projects Association
Dr. A. Lamb – Alberta Chamber of Commerce
Professor A.R. Lucas – Law Society of Alberta
Professor B.J. Mundel-Atherstone – University of Lethbridge
Dr. D.H. Norrie – University of Calgary
Mrs. Betty Paschen[*] – Unaffiliated
Mr. G.F. Paschen – Archaeological Society of Alberta
Mr. R. Paul – Native Outreach
Mr. J. Prostebby[+] – Electric Utility Planning Council
Mr. M.K. Ross – Coal Association of Alberta
Mrs. Mary Stephensen – Alberta School Trustees Association
Mr. G. Stewart – Canada Petroleum Association
Mr. Ken Warren – Electric Utility Planning Council

[*] No longer on Study Group
[+] Attended Study Group as alternate

ANNUAL REPORT OF THE POLLUTION STUDY GROUP

Report from the Chairman – Lubomir Wojtiw

The Pollution Study Group held 10 meetings in 1982. One meeting was a tour meeting, a trip to the Alberta Environmental Centre in Vegreville. Two important subjects addressed by our Group included: (a) acid rain, in particular sulphur emission and deposition from sour gas plants, and (b) water quality in Alberta rivers. A list of meetings, topics, and speakers is included at the end of this report, as well as a list of the members of this Study Group.

The meetings were very well attended by the members and because of their dedication and enthusiasm, 1982 has been a successful and productive year for the Group. A number of meetings were well represented by the news media which generated excellent public exposure for topics addressed by the Group.

The Pollution Study Group has been concerned about the health problems of families living near the Pincher Creek gas plants since a group of area mothers related their families' difficulties to the ECA's public hearings on hazardous wastes in 1980. In February 1981, members of the Pollution Study Group met with area residents, industry spokesmen, and government officials at a special Study Group meeting in Pincher Creek. Since then, the Study Group has been vocal in its recommendations to government that action be taken to resolve the issue. There have been complaints from people in the area about emissions from the gas plants for over twenty years. On 27 April 1982, an "emergency" resolution was forwarded to the Premier and other members of the Alberta government. That resolution called upon the government to "conduct the comprehensive epidemiological study in the Pincher Creek area which was recommended by the Canadian Public Health Association." The initial recommendation for the urgent resolution came from the Pollution Study Group. The urgency of the matter was dictated, the Group felt, by the decision of the Department of Social Services and Community Health to proceed with what the Group believed was a less comprehensive study in the community around Twin Butte.

Our Study Group also discussed and presented six resolutions in 1982; these were on such topics as: desulphurization of coke, communal sewage disposal systems, communal sewage treatment grants, acid-forming emissions control, acid-forming emissions policy, and administration of the Alberta Municipal Grant Program for water supply and sewage treatment.

I would like to thank the members of this Study Group, the ECA staff, and the news media for their support and assistance in making 1982 a successful year for the Pollution Study Group.

Lubomir Wojtiw
Chairman, Pollution Study Group

Pollution Study Group Meetings in 1982

Date	*Topic*	*Guest Speakers*
25 Jan.	The Clean Air Act and Regulations	Mr. Jerry Lack Mr. Silver Lupul Mr. Frank Witthoeft
22 Feb.	Pincher Creek Issue Private Sewage Disposal Systems	

29 Mar.	Air Monitoring	Mr. Jerry Lack
	Strathcona Industrial Associations' Monitoring Network	Mr. Graham Norman
26 Apr.	The Pincher Creek Health Study	Dr. Sheila Durkin Mr. John O'Laney Dr. Douglas Sheddon Dr. Earle Snider Dr. Jack Taylor
28 Jun.	Sour Gas Processing in Alberta	
30 Aug.	Visit to Alberta Environmental Centre in Vegreville	Dr. S. Weaver Dr. M. Wilson
25 Oct.	Bow River Quality	Representatives from the Bow River User Association Mr. Ralph Klein

Members of the Pollution Study Group

Chairman – Lubomir Wojtiw – Canadian Meteorological and Oceanographic Society
Mr. D. Abbey – Canadian Union College
Mr. Kenn Blom – Alberta Public Health Association
Mrs. P. Campbell – University Womens' Club of Edmonton (Can. Fed.)
Mr. N. Carlson – City of Wetaskiwin
Dr. M.H. Chaudhry – Lakeland College – Vermilion Campus
Mr. Sam Dymianiw+ – Alberta Public Health Association
Mrs. Kathy Doherty – Mount Royal College Student's Association
Mr. D.A. Gemmill – Chem. Inst. of Can.– Can. Soc. for Chem. Eng. (Cal. Sec.)
Dr. G.C.D. Griffiths – Unaffiliated
Ms. J. Hedenstrom – Alberta Wilderness Association
Dr. K.W. Hodgins – Alberta Medical Association
Mr. Bob Hollingshead* – Alberta Roadbuilders Association
Mr. W. Irwin – Canadian Institute of Public Health Inspectors (Alberta Branch)
Dr. Martha Kostuch – Alberta Veterinary Medical Association

Mrs. D.J. Lewoniuk – Alberta Lung Association
Mr. H.G. Lunty – United Farmers of Alberta Co-operative Ltd.
Mr. G. Merrick – Alberta Fish and Game Association
Dr. M. Muc* – City of Camrose
Mr. G. Norman – Strathcona Industrial Association
Mr. F.J. Morum – Fort Saskatchewan Regional Industrial Association
Mr. R. Romanetz – City of Drumheller
Mrs. J. Roschlaub – Alberta Pharmaceutical Association
Mr. W.K. Ross – Unaffiliated
Ms J. Russell – NAIT Students' Association
Mrs. L. Scraba – Women of Unifarm
Dr. R. Shaw – Medicine Hat College
Mr. J.A. Shemanchuk – Entomological Society of Alberta
Mr. D. Smith* – Northwest Region – Canada Jaycees
Mr. R.T. White – Bow River Water Users Association

* No longer on Study Group
+ Attended Study Group as alternate

ANNUAL REPORT OF THE RENEWABLE RESOURCES STUDY GROUP

Report from the Chairman – Dr. Charlie Wood

The Study Group held seven meetings in 1982. At the first meeting, February 9, I was elected chairman, replacing Andy Wierenga, while Don Patching agreed to remain as vice-chairman. I would like to thank Andy Wierenga for his services as chairman for the year 1981. Also, at this meeting it was agreed that the following would be the Group's area of interest for the year:

1) land stewardship
2) water management
3) wildlife management
4) forest management
5) sewage as a resource
6) utilization of garbage
7) health and safety of pesticide applicators (an interest left over from 1981)

At the invitation of the past chairman and the Group as a whole, John Kolkman and David Tuininga from the Christian Farmers Federation gave a presentation of their view of land stewardship, based largely on the premise that "We did not inherit the land from our parents, we are borrowing it from our children."

Terry Veeman (SAC Chairman) addressed the same subject from a somewhat different perspective, namely, that "The preservation of prime farmland should not be an absolute, universal goal, contrary to the general position of our professional agrology societies." Texts of both of these presentations are attached to the minutes of the March 22 meeting.

Correspondence was exchanged with Mr. Cookson regarding the alterations in water level in the North Saskatchewan River, particularly in the winter, caused by the use by TransAlta Utilities of the Brazeau and Big Horn reservoirs for peaking power. Mr. Cookson assured us that these fluctuations would "be tolerable from environmental, hydrological, and engineering perspectives" and then added "TransAlta Utilities Ltd. have yet to demonstrate that the above will be the case, given their proposed changes."

Throughout the year, the Study Group has been involved in the controversy surrounding the salvage logging operation which was carried out in the Castle River area, following the activities of the Mountain Pine Bark Beetle. The Study Group heard (verbally and in writing) from several members of the Alberta Wilderness Association and the Castle Watershed Study Committee who protested the manner in which the salvage operation was carried out.

The Study Group tried, in vain, to organize a field trip to the logged area so that we could see what happened and be better informed. Financial arrangements could not be made so the trip did not take place.

Dennis Dube from the Northern Forest Research Centre and representing the Canadian Institute of Forestry on our Study Group, gave us a presentation dealing with the life cycle and other technical aspects of the Pine Bark Beetle and later Chris Anderson, Manager Woodlands Division, North Canadian Forest Industries Limited, and the Alberta Forest Products Association representative on the Alberta Integrated Planning Advisory Committee, was invited to address us following his committee's tour of the area in May. He reported that the feeling of this group was that a reasonable approach to the salvage logging operation, given the circumstances, had been used.

At this point, the Study Group concluded that no further action was necessary. However, protests from the Alberta Wilderness Association continued, with the final result that a meeting was held in the ECA offices to attempt to resolve the matter. Attendees at this meeting included:

Alistair Crerar – Chief Executive Officer, ECA
Al Blenman – Assistant Deputy Minister, Alberta Forest Service

Cliff Smith – Director of Forest Protection, Alberta Forest Service
Art Evans – Chief Ranger, Blairmore
Dr. H. Cereske – Entomologist, Canadian Forest Service
Charlie Wood – Renewable Resources Study Group
Cheryl Bradley – President, Alberta Wilderness Association

Throughout the meeting, the technical aspects of the beetle control and salvage logging operations were outlined and defended. The views of the AWA were also presented. The consensus of those present was that another meeting would be helpful and this will be arranged at a later date.

Following requests from Edmonton Alderman Gerry Wright and Lethbridge Councilman Bill Kergan (one of our members), a study was begun on the use of municipal solid waste for electric power generation.

Alberta Research Council information retrieval specialists were asked to search several data bases for published literature on the subject. The main emphasis in this search was to find descriptions of projects where solid waste was used as the primary energy source, backed up by coal, fuel oil, or natural gas. A surprisingly large number of references were found. Both the ARC and ECA libraries were asked to order the articles and books referred to. Also, a request was made to the ECA for technical assistance in reviewing this literature.

As a follow up to the Study Group's 1981 resolutions about pesticide safety, many discussions were held about the problem of farm use of pesticides. Farmers are not required to be licenced, or to have a medical examination before they use pesticides. A resolution was prepared attempting to bring forward our concerns in this area.

All meetings were very well attended and I would like to thank all those who participated so enthusiastically. I also wish to thank members of the ECA staff in general, and Betty Meier in particular, for their support and assistance throughout the year.

Dr. Charlie Wood
Chairman, Renewable Resources Study Group

Members of the Renewable Resources Study Group

Chairman – Dr. Charlie Wood – Alberta Research Council
Mr. D. Appleby – Cold Lake Community Advisory Committee
Mr. E.B. Cunningham – Lethbridge Community College
Ms. J. Dart – Lethbridge Community College, Students' Association
Mr. P. Dobson – Alberta Wheat Pool
Mr. T. Donkersgoed[+] – Unifarm
Mr. D. Dube – Canadian Institute of Forestry
Mr. W.J. Francl – Canadian Water Resources Association (Alberta Chapter)
Mrs. E. Friesen – Unifarm
Mr. A. Garbutt – Canadian Society of Environmental Biologists (Alberta Chapter)
Mr. L. Halfe[*] – Alberta Trappers' Central Association
Mr. R. Hawkesworth – Alberta Urban Municipalities Association
Mr. R.A. Hill – Olds College
Mrs. C. Hooks – Alberta Association of Registered Nurses
Ms L. Horstman[*] – Canadian Society of Environmental Biologists (Alberta Chapter)
Mr. W.L. Kergan – City of Lethbridge
Mr. E. Kure – Unaffiliated
Mr. J. Lickacz – Fairview College
Mr. B. MacDonald – Grande Prairie Chamber of Commerce
Mr. D. Patching – Unaffiliated
Ms M. Posey – Canadian Nature Federation
Mr. R. Rizzoli – Alberta Trappers' Association
Mr. A. Rytz – Alberta Forest Products Association
Mr. T. Shewchuk – Grande Prairie Regional College
Mr. P. Thomas – Alberta Institute of Agrologists
Mr. R. Whistance-Smith – University of Alberta
Mr. A. Wierenga – Christian Farmers Federation

[*] No longer on Study Group
[+] Attended Study Group as alternate

ANNUAL REPORT OF THE URBAN ENVIRONMENT STUDY GROUP

Report from the Chairman – Steven E. Thompson

During 1982, the Urban Environment Study Group met on the last Friday of each month except for July.

The principal theme of discussion and information gathering centred on the issue of the relationship between the urban use of land and agricultural production. The conversion of agricultural land to urban and urban-related uses has been reducing and continues to reduce the scarce commodity of prime and good agricultural land. The issues of the conversion of the use of land deal with the economics of the relative land value and extending urban services to the expected life styles of urban (including country residential) residents.

The Study Group had many individuals speak on these topics. The presentations have been very informative and have led to much discussion and the realization of the complexity of the issue. The Group is continuing the investigation of the problem of how agricultural land can be conserved to maintain its potential for the production of food while dealing with the reality of the shorter range urban needs of our society. It is obvious that a longer range solution must be found and pursued if we are to use our resources wisely and not become overly dependent on imported food. The long-range future of Alberta and Canada very well may depend on the ability to produce food over and above our own consumption needs.

The need for a plan for the social impact of resource-based communities was also discussed. Not only the needs for providing services and facilities for the population were identified, but the social impact created when the resource production has ceased was investigated. This will become increasingly important as non-renewable resources become depleted or uneconomical in the future.

The Study Group welcomes the return of Lochan Bakshi, who will resume the chairmanship of the Group for the coming year.

Special recognition is given to Keith Driver, who acted as chairman for the Study Group for the several meetings when I as chairman and the vice-chairman were unable to attend.

As past chairman of the Study Group (and I believe that I can speak for the whole group), I want to recognize Betty Meier for her assistance in making the Study Group function. We will miss her outstanding services very much. We wish her the very best in her new job.

In the coming year, the Study Group will continue to provide an input to the activities of the Public Advisory Committee under the able leadership of Dr. Bakshi.

Steven E. Thompson
Chairman, Urban Environment Study Group

Members of the Urban Environment Study Group

Chairman – Steven E. Thompson – Mount Roval College
Mrs. L. Bakker – City of St. Albert
Dr. T.S. Bakshi – Athabasca University
Mr. M.J. Colledge – Alberta Motor Association
Dr. S. Dalton – Concordia College
Mr. Keith Driver – Unaffiliated
Mr. J.C. Finlay – Council of Alberta Rural Ratepayer's Association
Dr. K. Higginbotham – City of Edmonton
Mrs. J. Kelman – City of Calgary
Mrs. L. Klute – Alberta Motor Association
Prof. H. Knowles – Alberta Association of Landscape Architects
Mrs. M. Lutz – Consumers Association of Canada
Mrs. Mary Oldring – Urban Development Institute of Alberta
Mr. T. Priddle* - Urban Development Institute of Alberta
Mr. E. Radbourne – City of Grande Prairie
Mrs. J. Sloan – City of Lloydminster
Dr. Iain Taylor+ – Athabasca University
Mrs. Ruth Wood+ – Consumers Association of Canada

* No longer on Study Group
+ Attended Study Group as alternate

Appendix C

Resolutions Passed by the Public Advisory Committees
at the 1982
Annual Joint Meeting

Resolution 1

I. Public Access to Water Bodies

II. Be It Resolved:

THAT the Government of Alberta examine the provision of public access to water bodies in the province and establish the means of implementing an access development and maintenance program.

III. Background:

Water bodies including lakes, reservoirs, and rivers together with their adjacent shorelands are very important components of the resource base for outdoor recreation. According to the Canada Land Inventory survey, 67.3 percent of the 13,220 acres of class one recreation capability land (land having a very high capability for outdoor recreation) in Alberta is shoreland capable of supporting family beach activities including swimming, boating, angling, and cottage waterfront development (see Swinnerton 1982). However, public use of many water bodies is made difficult if not excluded because of the land-use pressures associated with the land-water interface and the lack of legal access.

Despite the undertaking of numerous studies significant problems remain regarding public access to water bodies. They may be summarized as follows:

1. Although under the Public Lands Act (1977) title to the beds and shore of all rivers, streams, watercourses, lakes and other bodies of water is vested in the Crown, access to such water bodies is frequently across private land. As a result, the issue of trespassing is frequently encountered.

2. Fluctuating water levels make the boundary between public (beds and shores) and private land difficult to delineate on the ground. In addition, the recent revision of the Land Titles Act to assign private status to accrued land as a result of declining water levels could eliminate public access to many water bodies (Schreiner 1982).

3. As a result of the recreational attraction of shorelands for commercial recreation development and waterfront subdivisions, public access to many water bodies is severely reduced if not eliminated. Even though reserve lands are designated as part of the subdivision planning process and should therefore provide for public access, these areas are frequently not clearly identifiable or maintained to permit public access. Lack of maintenance or illegal closure of road allowances is a further example of the reduction of the provision of public access.

4. In many instances where public access is provided, problems of sanitary control, garbage maintenance, vandalism, and road and site maintenance result (Select Committee of the Alberta Legislative Assembly 1980, Stenton 1982). These problems frequently have a major impact on adjacent private farmland. As a result, private landowners are reluctant to permit any further access to water bodies on their property.

5. Many of the agencies associated with the use of water bodies (for example, Alberta Environment with reservoirs and the Fish and Wildlife Division of Alberta Energy and Natural Resources) are placed into a position of becoming involved in the provision, protection and maintenance of public access and limited day-use site development for recreational purposes even though this role is not their primary mandate.

There is therefore a need for a comprehensive review of the issues associated with public access to water bodies and the financial and management implications of developing further access points where required and the maintenance of existing and new provisions.

IV. References:

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Alberta Land Use Forum. 1976. *Land Use Forum Report and Recommendations.* Edmonton: Alberta Land Use Forum. 280 pages.

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Edmonton Regional Planning Commission. 1977. *Shorelands Policy.* Position Paper No. 7. Edmonton: Edmonton Regional Planning Commission. 113 pages.

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Schreiner, C. 1982. "Access to Water Bodies – the Case of Lakeshore Lands." Presentation to Environment Protection Study Group, Public Advisory Committee, Environment Council of Alberta, Edmonton. June 1982.

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Stenton, E. 1982. "Access to Water Bodies." Presentation to Environment Protection Study Group, Public Advisory Committee, Environment Council of Alberta, Edmonton, June 1982.

Swinnerton, G.S. 1982. *Recreation on Agricultural Land in Alberta.* Draft. Edmonton: Environment Council of Alberta. 260 pages.

Technical Committee on Lakes and Shorelands. 1974. *Use of Our Lakes and Lake Shorelands – Introduction.* Summary Report 12A. Edmonton: Alberta Land Use Forum. 14 pages.

V. To be Directed to:

Minister of Agriculture
Minister of Energy and Natural Resources
Minister of Environment
Minister of Recreation and Parks

Copies for information to:

Minister of Municipal Affairs
Minister of Tourism and Small Business

VI. Proposed by the Environment Protection Study Group

Resolution 2

I. Co-ordination of Interdepartmental Recreation Policy Planning, Program Development and Resource Management.

II. Be It Resolved

THAT the Alberta Government, through a revitalized Recreation Committee or some other mechanism, pursue a more active role in co-ordinating recreation policy planning and program development in the province.

III. Background:

Involvement in some form of outdoor recreation has become an integral part of the lifestyle of most Albertans. Outdoor Recreation by definition is a land-use activity and approximately 9.5 percent of the province's land area is designated for recreation and conservation purposes (Alberta Agriculture 1980). In addition, a significant amount of informal recreation activity takes place on land and water bodies not specifically designated or managed for this type of land use (Swinnerton 1982).

One of the most distinguishing features of the provision of outdoor recreation opportunities in the province is the large number of government agencies involved (Burton and Kyllo 1974, Makale and Kyllo Planning Associates Ltd. 1978). Alberta Recreation, Parks and Wildlife (1977) identified the following agencies in the Alberta Government which assumed responsibility in the outdoor recreation field: Agriculture, Business Development and Tourism (present title — Tourism and Small Business), Culture, Energy and Natural Resources (currently includes Alberta Forest Service, Public Lands Division and Fish and Wildlife Division), Environment, Municipal Affairs, Recreation, Parks and Wildlife (currently Alberta Recreation and Parks) and Transportation. Whereas Alberta Recreation and Parks has the clearest mandate to provide opportunities for recreation, the other agencies have varying levels of commitment.

With the exception of Alberta Recreation and Parks, the recreation services being provided are predominantly through secondary or tertiary mandates. Consequently, these agencies' major concern and expertise tend to be in non-recreational issues. This orientation is particularly important, considering that outdoor recreation activities taking place outside parks and similarly designated areas invariably occur as subsidiary or secondary forms of land use in a multiple land-use situation, where the controlling interests in terms of land ownership attitude and management objectives are non-recreational. In addition, recreation policy development is extremely difficult to achieve because the primary responsibility of the various agencies is not towards recreation.

Despite the establishment in 1968 of the Alberta Government Recreation Committee with the purpose of providing advice to the Minister of Recreation on the co-ordination of interdepartmental recreation policy planning and program development (Alberta Municipal Affairs 1980) no overall recreation policy framework has been developed, resulting in conflicts and overlaps in some areas and gaps in others (see Balmer 1979, Morrison 1981). Specific examples of a lack of co-ordination in policy development and site specific planning include changes in the permitted uses within the recreation zone in the Eastern Slopes (Lamb 1982) and the recreational use of reservoirs and adjacent shorelands (Dykstra 1982).

Apparently the Alberta Government Recreation Committee has not met for over a year despite the increasing demand for outdoor recreation opportunities and growing pressures on resources natural, human, and financial. The development of a clearly defined outdoor recreation policy for the province is obviously a high priority requirement. There is therefore a growing need for the Alberta Government to develop a more effective mechanism for co-ordinating recreation policy planning and program development in the province.

IV. References:

Alberta Agriculture. 1980. *Estimated Alberta Surface Land Area by Various Types of Land Uses, 1979.* Internal Information Bulletin. Edmonton: Resource Economics Branch, Alberta Agriculture.

Alberta Municipal Affairs. 1980. *Planning in Alberta: A Guide and Directory.* Revised Edition. Edmonton: Alberta Municipal Affairs. 98 pages.

Alberta Recreation, Parks and Wildlife. 1977. *Putting the Pieces Together: An Alberta Provincial Park System Plan.* Edmonton: Alberta Recreation Parks and Wildlife. 116 pages.

Balmer, K. 1979. "Future Trends in Recreation Planning." Keynote Address. In *Great Recreation Dilemma, Summary of Proceedings.* Twentieth Annual Workshop, Oldman River Regional Planning Commission, 2-3. Lethbridge: Oldman River Regional Planning Commission.

Burton, T.L. and L.T. Kyllo. 1974. *Federal-Provincial Responsibilities for Leisure Service in Alberta and Ontario.* Four Volumes. Volume 3, The Government of Alberta. 152 pages.

Dykstra, T.L. 1982. "Access to Water Bodies—The Case of Reservoirs." Presentation to Environment Protection Study Group, Public Advisory Committee, Environment Council of Alberta, Edmonton, June 1982.

Lamb, M. 1982. "Eastern Slopes Report Readied." *Lethbridge Herald* Friday, May 28, 1982.

Makale and Kyllo Planning Associates Ltd. 1978. *Program and Policy Review: Alberta Government Leisure Services.* Prepared for Alberta Recreation, Parks and Wildlife, Edmonton. 152 pages.

Morrison, K. 1981. "Outdoor Recreation Programs in Alberta." *Park News* 17(3):3-9.

Swinnerton, G.S. 1982. *Recreation on Agricultural Land in Alberta.* Draft. Edmonton: Environment Council of Alberta. 260 pages.

V. To be Directed to:

Minister of Recreation and Parks

Copies for information to:

Minister of Advanced Education and Manpower
Minister of Agriculture

Minister of Culture
Minister of Education
Minister of Energy and Natural Resources
Minister of Environment
Minister of Federal and Intergovernmental Affairs
Minister of Municipal Affairs
Minister of Social Services and Community Health
Minister of Tourism and Small Business
Minister of Transportation

VI. Proposed by the Environment Protection Study Group

Resolution 3

I. Public Involvement in the Management of the Eastern Slopes

II. Be It Resolved:

THAT proposed changes in the policy for resource management of the Eastern Slopes be subject to public review before being adopted.

III. Background:

The Eastern Slopes Integrated Management Plan presently under development could result in changes to the zoning regulations and the boundaries of some of the zones in the Eastern Slopes as originally established in the Eastern Slopes Policy. Although representatives of some user groups have been permitted input into the preparation of the Integrated Management Plans, a wide segment of the public has not been consulted. It appears that public involvement will cease after completion and implementation of the Integrated Management Plans, even though management of the Eastern Slopes is an ongoing process, and zone changes are of great concern to a great number of Albertans.

IV. References:

Alberta Energy and Natural Resources. July 1977. *A Policy for Resource Management of the Eastern Slopes.* Edmonton. 19 pages.

Mayer, Alan. 1982. "Protected Slopes Open for Ventures." *Edmonton Journal* May 22, 1982.

V. To be Directed to:

Minister of Energy and Natural Resources

Copies for information to:

Minister of Environment
Minister of Recreation and Parks

VI. Proposed by the Environment Protection Study Group

Resolution 4

I. Conditional Lease for the Odyssey (Cline River Resort)

II. Be It Resolved:

THAT the Government of Alberta deny any extension of the Conditional Lease to the Cline River Development Company Ltd. for the construction of the Odyssey Project.

III. Background:

On February 6th, 1979, an Order-in-Council was passed authorizing the Associate Minister of Public Lands and Wildlife to enter into a fifty-year lease with the Cline River Resort Development Company Limited for the construction of the Odyssey, subject to certain conditions. One condition was that the lease would be cancelled if substantial development was not started within three years. This cancellation clause was extended to four years by an Order-in-Council passed on July 28th, 1981, which also increased the land from 201.4 acres to 340.2 acres. Although recent delays in development are at least partially due to appeals that have been raised by environmental groups, the proponents did not proceed in a timely fashion and questions regarding the viability of the project have not been satisfactorily answered.

IV. References:

Alberta Wilderness Association. 1981. "Kootenay Plains in Jeopardy, Adjacent Wilderness at Stake." In *Action Alert.* ISSN 0380-562X. Alberta Wilderness Association. Calgary.

V. To be Directed to:

Minister of Energy and Natural Resources

Copies for information to:

Minister of Environment

VI. Proposed by the Environment Protection Study Group

Resolution 5

I. Public Explanation by the Minister of Environment Regarding Environmental Impact Assessments

II. Be It Resolved:

THAT when the Minister of Environment does *not* require an Environmental Impact Assessment for a proposed project, he provide, upon request, a written explanation summarizing the issues and stating the reasons for his decision.

III. Background:

Environmental Impact Assessments are intended to determine if acceptable environmental quality will be maintained as a result of a given operation or development and to assess the controls needed to preserve environmental quality. E.I.A.s need to be carried out for projects which may have a significant adverse effect on environmental quality before commitments or irrevocable decisions are made. The results of these assessments should then be used in planning, in decision making and in setting the conditions which are to be met for operating licenses.

Interested and concerned citizens have a right to know the specific points of view and the rationale that determined the decision on whether or not to require a detailed E.I.A. It is logical that the public should be able to request such an explanatory statement (similar to ERCB-published decision reports) on any project detailed on the list of 10 major classes of projects now in use by the Department, if the Minister waives the requirement for a detailed E.I.A.

IV. References:

Environmental Impact Assessment Steering Committee. 1980. *Review of Alberta's Environmental Impact Assessment System, Report and Recommendations.* Alberta Department of Environment. 31 pages.

Hunt, C. and A. Lucas. 1980. *Environmental Regulation – Its Impact on Major Oil and Gas Projects: Oilsands and Arctic.* Canadian Institute of Resources Law and Economic Council of Canada. 155 pages plus appendices.

V. To be Directed to:

Minister of Environment
The Premier

VI. Proposed by the Non-Renewable Resources Study Group

Resolution 6

I. Public Consultation

II. Be It Resolved:

THAT the public be formally advised of all major projects and their input solicited as a preliminary step in the decision making process on the type of Environmental Impact Assessment to be required.

III. Background:

The effectiveness and efficiency of the present Alberta environmental impact assessment system is a matter of concern to members of the public and private sectors, and to the Government of Alberta. Section 8 of the Land Surface Conservation and Reclamation Act gives the Minister of the Environment discretionary authority to order an Environmental Impact Assessment (E.I.A.) whenever he is of the opinion that an activity is likely to result in surface disturbance. E.I.A.s are normally required for major projects and 10 classes of projects have been identified for which an E.I.A. is required. However, uncertainty continues to exist among members of the public as to whether an E.I.A. will be required for a particular project.

Public confidence in the E.I.A. process is likely to be improved if there is a public announcement in the local press that an E.I.A. has been requested by the Minister. At the same time a disclosure document provided by the project proponents should be made available and the public invited to submit written comments on the E.I.A. guidelines being developed for the project.

Through this process, public concerns and any uncertainty as to whether or not the E.I.A. will address all potential impacts of the proposed project could be overcome.

IV. References:

Alberta Environment. 1977. *Environmental Impact Assessment Guidelines.* Land Conservation and Reclamation Division, Alberta Department of Environment. 14 pages.

Environmental Impact Assessment Steering Committee. 1980. *Review of Alberta's Environmental Impact Assessment System: Report and Recommendations.* Alberta Department of Environment. 31 pages.

Hunt, C. and A. Lucas. 1980. *Environmental Regulation – Its Impact on Major Oil and Gas Projects: Oil Sands and Arctic.* Canadian Institute of Resources Law and Economic Council of Canada. 155 pages plus appendices.

V. To be Directed to:

Minister of Environment

VI. Proposed by the Non-Renewable Resources Study Group

Resolution 7

I. Public Consultative Process for the Establishment of Standards, Guidelines and Objectives in Alberta.

II. Be It Resolved:

THAT the Department of Environment develop a mechanism whereby public input and involvement can be included in the process for establishing ambient and source contaminant standards, objectives and guidelines.

III. Background:

The environmental impact of an activity is largely determined by the ambient and source contaminant standards, objectives and guidelines that are in place and can be applied in the permitting process. Social, economic, and political factors, as well as technical and scientific factors, play a very significant part in the determination of ambient and source contamination standards, objectives and guidelines.

Since the public's perception of acceptable permitting parameters is subject to change for such wide-ranging reasons as population density shifts and the effects of an ever-lengthening list of toxic substances, and because the role and influence of social, economic, and political factors is largely judgmental, the public should be involved in a process which considers the role of these factors in the development of pollution control standards, objectives and guidelines.

Confusion and even distrust may develop in the public's mind if the standards-setting process is not understood. For example, permitted features such as variances are viewed by the public as violations. Involvement of the public in the setting of standards, objectives and guidelines would provide the basis for greater public understanding of the nature of the process, the risks and trade-offs involved, and the problems associated with enforcement.

A mechanism is required within government whereby members of the public may be systematically consulted and involved in a process establishing and reviewing ambient and source contaminant standards, objectives and guidelines. Such consultation and involvement could provide a basis for mutual understanding and satisfaction.

IV. References:

Environmental Impact Assessment Steering Committee. 1980. *Review of Alberta's Environmental Impact Assessment System, Report and Recommendations.* Alberta Department of Environment. 31 pages.

V. To be Directed To:

Minister of Environment
Energy Resources Conservation Board

VI. Proposed by the Non-Renewable Resources Study Group

Resolution 8

I. Public Funding

II. Be It Resolved:

THAT Section 31 of the Energy Resources Conservation Act be amended to provide public funding to allow participation in ERCB hearings and inquiries by concerned members of the public and citizen organizations in addition to "owners and occupiers of directly affected property." The criteria and guidelines to cover public funding should be developed by the ERCB.

III. Background:

It is desirable to encourage public participation in environmental impact assessment of particular projects through direct consultation, public meetings and hearings. This participation provides additional information to decision-makers on advocates' positions and points of view that would not otherwise be taken up, helps to test applicants' information, and facilitates public acceptance of projects. People affected are more likely to perceive the process as fair.

To participate effectively, members of the public and public organizations require good information and sound technical advice. They must be able to perform on an equal footing with government and project proponents. This requires funding or awards to cover the reasonable costs of public participants. The Energy Resources Conservation Act provides costs for "local intervenors" who participate in ERCB hearings. But "local intervenors" include only property owners or occupiers affected by proposed projects. Public organizations do not qualify.

Funding should be extended to cover the out of pocket expenses of individuals or organizations in attending hearings or public meetings, plus their reasonably incurred expenses for professional representation, advice and expert testimony at formal proceedings.

IV. References:

DeSorcy, G. 1982. "Procedures of the ERCB in Processing Applications." Presentation to the Non-Renewable Resources Study Group of the Public Advisory Committee on the Environment. Edmonton. Available from the PAC Library.

Energy Resources Conservation Act, RSA 1980, c. E-11, s. 30.1.

Environmental Impact Assessments. 1980. Information Letter IL 80-19, Energy Resources Conservation Board and Alberta Department of Environment. 2 pages.

Local Intervenors' Costs Regulation. Alta. Reg. 435/78.

Thompson, A.R. 1980. *Environmental Regulation in Canada: An Assessment of the Regulatory Process.* Vancouver: Westwater Research Centre, University of British Columbia. 124 pages.

Thompson, A.R., N. Bankes, and J. Souto-Maior. 1981. *Energy Project Approval in British Columbia.* Vancouver: Westwater Research Centre, University of British Columbia. 80 pages.

V. To be Directed to:

Minister of Environment
Chairman, Energy Resources Conservation Board

VI. Proposed by the Non-Renewable Resources Study Group

Resolution 9

I. Form of ERCB Project Assessment Hearings

II. Be It Resolved:

THAT ERCB hearings have two distinct phases:
1) project need, and
2) detailed project review and assessment.

III. Background:

Problems have arisen in ERCB project assessment hearings because environmental intervenors have found it difficult to determine when it is appropriate to speak to the need for the project in question as opposed to issues related to specific potential environmental effects of the project. This has frustrated and confused public intervenors and has made it difficult for the Board to ensure that detailed project review and assessment is considered in a particular phase of the hearings.

In a report entitled "Energy Project Approval in British Columbia," Thompson, Bankes, and Souto-Maior provide an excellent case for the merits of a two-stage hearing process, at least in a B.C. context. They argue that the concept of a two-stage approval process is widely supported by both environmental groups and industrial representatives. The former emphasize the importance of considering a full range of project alternatives early in the process before a lot of time and money are invested in developing a detailed project proposal for which approval is largely a foregone conclusion. The latter group support the two-stage approach because it theoretically (at least) reduces the uncertainties and costs of project development.

In a two-stage process, the major energy development proponent would carry out initial feasibility studies on a number of alternative proposals and scenarios. Then a public hearing would enable general public debate on the broad issues: energy demand projections, alternative energy sources, and general environmental and social concerns. Projects found justifiable would be given approval in principle.

The second stage would identify specific project impacts to enable clear identification of monitoring and management requirements, to resolve potential negative impacts and enhance positive ones.

Thompson, Bankes, and Souto-Maior also comment that when only a single hearing is held, the first-stage issues, focussing on project justification, are often glanced over, and the hearing tends to concentrate on mitigation and compensation measures. This is indeed the case with the current ERCB hearing process.

It may also be worth noting that Thompson, Bankes, and Souto-Maior argue that ideally, a two-stage hearing process should exist in the context of an overall provincial planning process. By this they mean that there should be public debate of broad provincial energy strategies, such as whether energy-intensive industries should be encouraged.

IV. References:

DeSorcy, G. 1982. "Procedures of the ERCB in Processing Applications." Presentation to the Non-Renewable Resources Study Group of the Public Advisory Committee to the Environment Council of Alberta. Edmonton. Available from the PAC Library.

Environmental Impact Assessments. 1980. Information Letter IL 80-19, Energy Resources Conservation Board and Alberta Department of Environment. 2 pages.

Thompson, A.R., N. Bankes, and J. Souto-Maior. 1981. *Energy Project Approval in British Columbia.* Vancouver: Westwater Research Centre, University of British Columbia. 80 pages.

V. To be Directed to:

Minister of Environment
Chairman, Energy Resources Conservation Board

VI. Proposed by the Non-Renewable Resources Study Group

Resolution 10

I. Community Sewage Treatment Grants

II. Be It Resolved:

THAT following approval, the Department of the Environment expedite the disbursement of monies to communities requesting sewage treatment grants.

III. Background:

Whenever residents live in close proximity there is a potential for sewage concerns. Residents demand a communal solution to their public health concerns. To address these concerns, the Department of Environment offers a grant program to establish a sewage collection and treatment system.

Once a community system is approved, residents are resistant to spending large sums of money to rectify problems with their private sewage treatment systems. It is the duration of time between approval and construction of a community sewage treatment system wherein public health problems increase. The most obvious answer is to minimize the delay in construction by the timely allocation of funds.

IV. References:

Alberta Environment. 1981. *Alberta Municipal Water Supply and Sewage Treatment Grant Program.* Standards and Approvals Division, Alberta Department of Environment. 3 pages.

V. To be Directed to:

Minister of Environment

VI. Proposed by the Pollution Study Group

Resolution 11

I. Desulphurization of Coke

II. Be It Resolved:

THAT the Alberta Government require all existing and new plants which process bitumen from the Alberta Oil Sands to utilize the best technology to desulphurize the by-product coke prior to utilization.

III. Background:

The existing oil sands plants, Suncor and Syncrude, are a major source of sulphur dioxide being emitted to the atmosphere in Alberta.

A number of methods are available to reduce the sulphur content of the coke which is produced as a by-product by these plants and significantly reduce the sulphur dioxide emitted when the coke is burned as fuel.

With the additional use of conventional "Claus" sulphur recovery units, about 90 percent of the sulphur in the coke can be recovered and marketed as elemental sulphur. Tail gas clean-up as used in some of Alberta's sour gas plants can even further enhance sulphur recovery.

The pressing need to limit the release of acid-forming emissions into our atmosphere dictates that all identifiable sources of sulphurous gas emissions be brought under control to the fullest extent possible with the best available technology.

IV. References:

Canadian Patent "Desulfurization of Fluid Coke." No. 1,098,468 assigned to Z.M. George and granted to the Alberta Research Council, March 31, 1981.

Canadian Patent "Improvements in Hydrodesulfurization of Coke." No. 1,125,686 assigned to Z.M. George and granted to the Alberta Research Council, June 15, 1982.

George, Z.M. and M.A. Kessick. 1982. "SO_x Control in Athabasca Oil Sands Coke." Paper presented at 32nd Canadian Chemical Engineering Conference, Vancouver, B.C. October 3-6, 1982.

George, Z.M. and L.G. Schneider. "NaOH assisted desulfurization of petroleum coke." *Fuel* (in press).

George, Z.M., L.G. Schneider, and M.A. Kessick. 1982. "Coking of bitumen from Athabasca oil sands." *Fuel* Vol. 61, February 1982, pages 169-174.

United States Patent "Improvements in Hydrodesulfurization of Coke." by Z.M. George, application filed June 18, 1981.

V. To Be Directed to:

Minister of Environment
Minister of Energy and Natural Resources
Chairman of the Energy Resources Conservation Board

VI. Proposed by the Pollution Study Group

Resolution 12

I. Acid Forming Emissions Policy

II Be It Resolved:

THAT the Government of Alberta formally adopt as its policy a goal of zero increase in acid rain-forming emissions over present levels up to the year 2000 and an annual decrease, by a prescribed amount, each year thereafter.

III. Background

PAC has for some time been concerned about the effects of acid forming emissions on the environment. At PAC's 1980 Annual Meeting, a resolution was passed on the Long Range Transport of Atmospheric Pollution. On February 16, 1981, PAC presented a brief to the Sub-committee on Acid Rain of the Commons Standing Committee on Fisheries and Forestry. In the brief, PAC recommended setting a goal of zero increase in sulphur emissions up to 1990 and an annual decrease by a prescribed amount each year thereafter.

The Sub-committee agreed with the tenor of PAC's suggestion and thus made the following recommendation: "Recommendation 21 – The Sub-committee recommends that the Government of Alberta accord maximum priority to the control of acid rain-causing pollutants from industries in the province. The Sub-committee recommends that the Provincial Government adopt as its guiding policy a goal of zero increase in acid rain-causing emissions over present levels up to the year 2000, and an annual decrease by a prescribed amount each year thereafter."

In a letter dated December 1, 1981, the Hon. Jack Cookson, Minister of the Environment, writes, "the Government of Alberta generally agrees with the recommendations of the House of Commons' Sub-committee on Acid Rain...."

PAC requests the Government of Alberta to further its commitment by formally adopting a policy of zero increase.

For clarity it should be noted that the phrase "zero increase in acid rain-forming emissions over present levels up to the year 2000" should be interpreted as ensuring that acid-forming emission levels in the year 2000 should not exceed those of 1980 and that total emissions between 1981 and 2000 should not exceed 1980 levels multiplied by 20 years.

IV. References:

Public Advisory Committee. 1980. "Resolution 10. Long Range Transport of Atmospheric Pollution." In *Proceedings of the 1980 Annual Joint Meeting with the Environment Council of Alberta*, page 397. Edmonton: Environment Council of Alberta.

Public Advisory Committee. 1981. "Brief to the Sub-committee on Acid Rain of the Standing Committee on Fisheries and Forestry." Presentation to the Sub-committee on Acid Rain, Calgary, February 16, 1981. Available from the PAC Library.

Still Waters. 1981. Report of the Sub-committee on Acid Rain of the Standing Committee on Fisheries and Forestry. 150 pages. Available from Minister of Supply and Services Canada.

Letter from Hon. Jack Cookson, Minister of Environment, to Dr. Martha Kostuch, Chairman, Co-ordinating Committee of the Public Advisory Committees, December 1, 1981. Available from the PAC Library.

V. To be Directed to:

Minister of the Environment
Minister of Energy and Natural Resources
Premier
All Cabinet Members

VI. Proposed by the Pollution Study Group

Resolution 13

I. Acid Forming Emissions Control

II. Be It Resolved:

THAT the Government of Alberta direct the Department of Environment and the Energy Resources Conservation Board (ERCB) to take the steps necessary to prevent an increase in acid-forming emissions over present levels up to the year 2000 and to ensure an annual decrease in such emissions by a prescribed amount each year thereafter.

III. Background:

ERCB Report 82-D *Sour Gas Processing in Alberta,* recommends against adoption or implementation of Recommendation 21 of the House of Commons Sub-committee on Acid Rain.

Report 82-D calls the recommendation completely impractical and unrealistic. PAC does not believe that the recommendation is impractical or unrealistic. In fact, the slow-down in the construction of oil sands plants makes the goal even more practical. Alberta's adoption of the national emissions guidelines for thermal power stations will further reduce projected increases of emissions.

PAC does realize that not allowing an increase in emissions will increase the costs involved in processing energy. However, PAC believes that the costs of controlling emissions should be borne by the producer and ultimately by the consumer, not by future generations.

The ERCB also alleged that the Sub-committee's recommendation was discriminatory against Alberta. PAC does not agree with the ERCB's assessment. For the other provinces emitting large quantities of acid-forming compounds, the Sub-committee recommends a reduction in emissions, albeit it does so by citing specific sources of emission in the other provinces.

In a letter dated December 1, 1981, the Hon. Jack Cookson, Minister of the Environment, indicates that "the Government of Alberta generally agrees with the House of Commons Sub-committee on Acid Rain..."

PAC requests the Government to further this commitment by directing the ERCB to take the necessary steps to prevent an increase in acid-forming emissions.

For clarity it should be noted that the phrase "to prevent an increase in acid-forming emissions over present levels up to the year 2000" should be interpreted as ensuring that acid-forming emission levels in the year 2000 should not exceed those of 1980 and that total emissions between 1981 and 2000 should not exceed 1980 levels multiplied by 20 years.

IV. References

Energy Resources Conservation Board. 1982. *Sour Gas Processing in Alberta.* ERCB Report 82-D. Various pagination.

Letter from the Hon. Jack Cookson, Minister of the Environment, to Dr. Martha Kostuch, Chairman, Co-ordinating Committee, Public Advisory Committee, December 1, 1981.

V. To be Directed to:

Premier
All Cabinet Members
Minister of the Environment
Minister of Energy and Natural Resources
Chairman, Energy Resources Conservation Board

VI. Proposed by the Pollution Study Group

Resolution 14

I. Administration of the Alberta Municipal Grant Program for Water Supply and Sewage Treatment

II. Be It Resolved:

THAT the Department of Environment review and clearly define the criteria for approving grant monies to communities requesting sewage treatment systems.

III. Background:

Some communities in Alberta complain that there is little direction to the administration of the Alberta Municipal Water Supply and Sewage Treatment Grant Program. Three communities south of Edmonton (Millet, Gwynne, and Alder Flats) highlight the confusion experienced with the portion of this program pertaining to grants for sewage treatment.

In 1978, Millet applied for grant assistance to establish a larger sewage treatment system for its rapidly growing population. In 1981, following the difficulties in choosing an alternate facility and site, the Department of Environment conditionally approved the construction of a larger system at NE 1/4 -15-47-24-W4. Millet's present system is one-third over capacity and the village is being threatened by another branch of the Department of Environment for improper discharge of sewage. After voluminous negative media coverage, the Department of Environment denied the grant monies this summer.

Gwynne, a neighboring community of about 100 people, applied for assistance to establish a sewage treatment system about one year after Millet. Residents requested a complete engineering study in 1981 despite warnings that grant monies were not foreseeable. After strong representation by the local residents to the Department of Environment, this project is now under way.

Alder Flats, a community of the same size as Gwynne and with sewage problems as serious, applied for granting and was committed to the project before Gwynne. Alder Flats is still patiently waiting for its turn for grant money.

These examples point up the need for an established and understandable policy for administering the Alberta Municipal Water Supply and Sewage Treatment Grant Program. Interested communities should be made aware of the weightings placed on public health significance, local commitment, and date of application. These same communities should then be promptly informed of their overall priority respective to these weightings.

IV. References:

Alberta Environment. 1981. *Alberta Municipal Water Supply and Sewage Treatment Grant Program*. Standards and Approvals Division, Alberta Department of Environment. 3 pages.

V. To be Directed to:

Minister of Environment

VI. Proposed by the Pollution Study Group

Resolution 15

I. Health Surveillance for Farmers using Pesticides

II. Be It Resolved:

THAT an extensive program be instituted to inform farmers and health care personnel about the hazards of exposure to pesticides and the need for health assessment relating to pesticide application.

III. Background:

At present, some farmers are not aware of the need for, nor are they encouraged to seek, any medical examinations prior to or after using pesticides. All other pesticide applicators are required to be licenced under the Agricultural Chemicals Act and this includes mandatory examinations.

At present there is no program to assess the farmers' health, to obtain base line data, nor to encourage health promotional activities which will maintain and improve the farmers' health.

An educational program is required to inform farmers of the hazards of pesticide application and the safety procedures recommended, including the use of personal protective equipment and the desirability of medical examinations prior to and after using pesticides.

Early identification should be made of individuals who have adverse responses to exposure to pesticides.

The form used for medical examination of pesticide applicators is not specific and comprehensive enough to be adequate for farmers. It should be revised to provide for a history of exposure and for ongoing surveillance, plus additional testing specific to the pesticides used.

IV. References:

Agricultural Chemicals Act, RSA 1980, c. A-6.

International Labour Organization. 1977. *Safe Use of Pesticides.* Occupational Health and Safety Series No. 38. International Labour Office, Geneva. 44 pages.

Zenz, C., ed. 1980. *Occupational Medicine, Principles and Practical Applications.* Chicago: Year Book Medical Publishers. 944 pages.

V. To be Directed to:

Minister of Agriculture
Minister of Social Services and Community Health
Minister of Worker's Health, Safety and Compensation
Minister of Hospitals and Medical Care

Copies for information to:

Minister of the Environment

VI. Proposed by the Renewable Resources Study Group.

Resolution 16

I. Public Hearings on the Slave River Hydroelectric Power Development

II. Be It Resolved:

THAT the Energy Resources Conservation Board, the Environmental Assessment Review Panel and the Northwest Territories Water Board be encouraged to co-ordinate their public hearings on the Slave River Hydroelectric Power Development.

III. Background:

At the present time it appears as if there will be at least two public hearing processes on the Slave River Dam. This presents a problem for the public in terms of replication of effort, time commitments, and costs for participation. We believe that it is the responsibility of the agencies involved to co-ordinate their hearing processes so that the quality of public involvement can be enhanced and the private and public costs minimized.

IV. To be Directed to:

Chairman, Energy Resources Conservation Board
Chairman, Environmental Assessment Review Panel
Chairman, Northwest Territories Water Board

Copies for information to:

Minister of Environment
Minister of Utilities and Telephones
Minister of Energy and Natural Resources
Minister of Intergovernmental Affairs
Minister of Environment—Canada
Minister of Indian Affairs and Northern Development—Canada

V. Proposed by the Co-ordinating Committee

Resolution 17

I. Energy Efficient Government Buildings

II. Be It Resolved:

THAT all new and existing provincial government buildings incorporate available energy conserving technology to make them as energy efficient as possible.

III. Background

The land area known as the province of Alberta has been endowed with an abundance of fossil and renewable fuels. These have been developed in ever-increasing amounts in the last 35 years, particularly oil and gas. However, the recoverable quantities of fossil fuels (that is, gas, oil, coal) in Alberta are relatively small compared to the total world resources and already world consumption is posing a threat to available supply and reserves on a world scale.

Successive provincial administrations during the post-war years have extended extraordinary encouragement to entrepreneurs, to develop and exploit these resources. This development has resulted in many improvements in the lifestyle, economy, financial wealth and material environment of the province. Therefore, a policy of expanding domestic use, and the exporting of these resources in ever-increasing amounts is the priority of the provincial administration. However, these resources in this province are finite. Also, increased large-scale development poses a significant pollution threat to local, national, and world environment. In addition, the monetary cost of using these fuels to heat the interior environment, generate electricity, supply potable water, treat sewage and burn in personal transportation vehicles, is rapidly becoming excessive.

The international conglomerates who develop and market the world's energy resources are well aware of all these conditions and have already embarked on a program to conserve energy in their buildings and to develop alternate energy technology. It is obvious to their directors that these practices result in monetary savings and increased profits for their shareholders.

The administrators of this province are its directors and the people of the province are its shareholders both present and future. If private industry is taking measures to conserve energy in their buildings, it is only reasonable that government should do likewise for the same reasons. While the current provincial programs to conserve energy in existing and new provincial buildings are very much a step in the right direction, much more could be done to take advantage of energy conservation techniques such as passive solar design and air-tight construction to make such buildings as energy efficient as possible.

IV. To be Directed to:

Department of Housing and Public Works

Copies for information to:

Minister of Environment

V. Proposed by the Energy Study Group

Appendix D

Membership of the Public Advisory Committees

Public Advisory Committee Membership List

Sponsoring Organizations and Individuals

Alberta Association of Architects . . . . . Mr. F. Walicki
Alberta Association of Canadian Institute of Planners . . . . . Mr. C. Walker
Alberta Association of Landscape Architects . . . . . Prof. H. Knowles
Alberta Association of Municipal Districts and Counties . . . . . Mr. J. Glazier
Alberta Association of Registered Nurses . . . . . Mrs. C. Hooks
Alberta Beekeepers Association . . . . . Mr. R.P. McKenzie
Alberta Chamber of Commerce . . . . . Dr. A. Lamb
Alberta Chiropractic Association . . . . . Dr. R. Gehrke
Alberta Federation of Labour . . . . . Mr. R. Nielsen
Alberta Fish and Game Association . . . . . Mr. H. Fauser and Mr. G. Merrick
Alberta Forest Products Association . . . . . Mr. A. Rytz
Alberta Institute of Agrologists . . . . . Mr. P. Thomas
Alberta Irrigation Projects Association . . . . . Mr. G. Dudley
Alberta Lung Association . . . . . Mrs. D.J. Lewoniuk
Alberta Medical Association . . . . . Dr. K.W. Hodgins
Alberta Motion Picture Industry Association . . . . . Mr. D. Marshall
Alberta Motor Association . . . . . Mr. M.F. Colledge
Alberta Pharmaceutical Association . . . . . Mrs. J. Roschlaub
Alberta Public Health Association . . . . . Mr. K.J. Blom
Alberta School Trustees Association . . . . . Mrs. M. Stephenson
Alberta Teachers Association . . . . . Mr. W.B. Blocksidge
Alberta Trappers Central Association . . . . . Mr. R. Rizzoli
Alberta Urban Municipalities Association . . . . . Mr. R. Hawkesworth
Alberta Veterinary Medical Association . . . . . Dr. M. Kostuch
Alberta Wheat Pool . . . . . Mr. P. Dobson
Alberta Wilderness Association . . . . . Ms J. Hedenstrom
Alberta Women's Institute . . . . . Mrs. D. Whitenett
Archaeological Society of Alberta . . . . . Mr. G.F. Paschen
Association of Professional Engineers,
Geologists and Geophysicists of Alberta . . . . . Mr. J.E. Staples
Bow River Water Users Association . . . . . Mr. R.T. White
Calgary Chamber of Commerce . . . . . Mr. A. Chanin
Calgary Local Council of Women . . . . . Mrs. B. Laychuk
Canada West Foundation . . . . . Mr. D.K. Elton
Canadian Institute of Forestry . . . . . Mr. D. Dube
Canadian Institute of Public Health Inspectors
(Alberta Branch) . . . . . Mr. W. Irwin
Canadian Manufacturers' Association . . . . . Mr. R.M. Richardson

Canadian Meteorological and Oceanographic Society (Alberta Centre) . . . . . Mr. L. Wojtiw
Canadian Nature Federation . . . . . Ms M. Posey
Canadian Petroleum Association . . . . . Mr. G. Stewart
Canadian Society of Environmental Biologists . . . . . Mr. A. Garbutt
Canadian Water Resources Association . . . . . Mr. W.J. Francl
Chemical Institute of Canada – Canadian Society of Chemical Engineers (Calgary Section) . . . . . Mr. D.A. Gemmill
Christian Farmers Federation . . . . . Mr. A. Wierenga
City of Camrose . . . . . Mr. D. Myrehaug
City of Drumheller . . . . . Mr. R. Romanetz
City of Edmonton . . . . . Mr. K.O. Higginbotham
City of Grande Prairie . . . . . Mr. E.G. Radbourne
City of Lethbridge . . . . . Mr. W.L. Kergan
City of Lloydminster . . . . . Mrs. J. Sloan
City of Red Deer . . . . . Mr. D. Lawrence
City of Wetaskiwin . . . . . Mr. N. Carlson
C.J.L. Foundation . . . . . Mr. M. Slomp
Coal Association of Canada . . . . . Mr. M. Ross
Cold Lake Community Advisory Committee . . . . . Mr. D. Appleby
Consumers' Association of Canada . . . . . Mrs. E.S. Hunter and Mrs. M. Lutz
Council of Alberta Rural Ratepayers' Association . . . . . Mr. J.C. Finlay
Edmonton Chamber of Commerce . . . . . Mr. G. Cameron
Electric Utility Planning Council . . . . . Mr. K. Warren
Entomological Society of Alberta . . . . . Mr. J.A. Shemanchuk
Federation of Alberta Naturalists . . . . . Mrs. D. Broadbent
Foothills Protective Association . . . . . Ms L. Allison
Ft. Saskatchewan Regional Industrial Association . . . . . Mr. F.J. Morum
Girl Guides of Canada, Alberta Council . . . . . Mrs. T.F. Clement
Grande Prairie Chamber of Commerce . . . . . Mr. B. MacDonald
Law Society of Alberta . . . . . Prof. A.R. Lucas
Lloydminster Chamber of Commerce . . . . . Mr. J. Weaver
National and Provincial Parks Association of Canada (Calgary/Banff Chapter) . . . . . Mr. A.C. Dunkley
National and Provincial Parks Association of Canada (Edmonton Chapter) . . . . . Dr. G. Swinnerton
Native Outreach . . . . . Mr. R. Paul
Northern Alberta Association of Biological Science Technicians Mr. B. Kolenosky
Northwest Fisherman's Co-op . . . . . Mr. A. Emes
Oil Sands Environmental Study Group . . . . . Mr. W.D. Broughton
Outdoors Unlittered . . . . . Mrs. J. Finlay
Research Council of Alberta . . . . . Dr. C. Wood
Sierra Club of Alberta . . . . . Ms P. Kariel

Strathcona Industrial Association . . . . . Mr. G. Norman
Unifarm . . . . . Mrs. E. Friesen
United Farmers of Alberta Co-operative Ltd. . . . . Mr. H.G. Lunty
United Grain Growers Limited . . . . . Mr. A. Dickson
University Womens' Club of Edmonton (Canadian Federation of University Women) . . . . . Mrs. P. Campbell
Urban Development Institute of Alberta . . . . . Mrs. M. Oldring
Western Stock Growers' Association . . . . . Mr. G. Dixson
Women of Unifarm . . . . . Mrs. L. Scraba
Young Womens' Christian Association . . . . . Mr. R. Ireland

Educational Institutions

Athabasca University . . . . . Dr. T.S. Bakshi
Canadian Union College . . . . . Mr. D. Abbey
Canadian Union College Students' Association . . . . . Mr. J. Arruda
Concordia College . . . . . Dr. S. Dalton
Fairview College . . . . . Mr. J. Lickacz
Grande Prairie Regional College . . . . . Mr. T. Shewchuk
Grant MacEwan Community College . . . . . Dr. F. Kozar
Keyano College . . . . . Mr. E. Stolarchuk
Lakeland College – Vermilion College . . . . . Dr. M.H. Chaudhry
Lethbridge Community College . . . . . Mr. E.B. Cunningham
Medicine Hat College . . . . . Dr. R.K. Shaw
Mount Royal College . . . . . Dr. K. Cummins
Mount Royal College Students' Association . . . . . Mr. G. Lane
Northern Alberta Institute of Technology . . . . . Mr. R.G. Proudfoot
Olds College . . . . . Mr. R.A. Hill
Red Deer College . . . . . Mr. G. Fabris
Southern Alberta Institute of Technology . . . . . Mr. D.A. Clarke
University of Alberta . . . . . Mr. R. Whistance-Smith and Mr. P.N.D. Seymour
University of Alberta Students' Union . . . . . Mr. D. MacIssac
University of Calgary . . . . . Dr. D.H. Norrie
University of Lethbridge . . . . . Prof. B. Mundel-Atherstone

Non-Sponsored Members

The current list of unaffiliated members follows:

Mrs. S. Abercrombie
Mr. K. Driver
Dr. G.C.D. Griffiths
Mr. E. Kure
Mr. D. Patching
Mr. W.K. Ross
Dr. R. Scace
Mr. I.D.F. Shaw

Science Advisory Committee Members

Dr. C.F. Bentley
Dr. H. Buckmaster
Dr. S. Dalton
Dr. B.P. Dancik
Dr. R.W. Davies
Prof. P. Dranchuk
Ms L. Duncan
Dr. W.A. Fuller
Dr. H.W. Habgood
Dr. J. Hackler
Ms L.P. Horstman
Dr. R.K. Lane
Dr. A. Laycock
Dr. P. Mahaffy
Dr. R.P. Pharis
Dr. E. Prepas
Dr. F.W. Schwartz
Dr. D. Thompson
Dr. W.H. Vanden Born
Dr. T.S. Veeman
Mr. B. Wishart

Environmental Education Advisory Committee Members

Ms S. Banks
Mr. B. Batycky
Mr. E. Berndt
Mrs. J. Crook
Dr. S. Dalton
Mr. G. Doherty
Mr. G. Dunkley
Mrs. J. Finlay
Mr. J. Glazier
Dr. J. Guay
Mr. L. McKibben
Mr. D.A. Gemmill
Mr. G. Shaw
Mr. T. Shewchuk
Mr. A. Smandych
Mr. D. Stoker
Ms S. Washington

Appendix E

List of Publications

LIST OF PUBLICATIONS

DECEMBER 1982

All publications listed are free upon request to the Environment Council. Single copies of up to 10 different publications may be ordered. Please do not waste printed material. Order only those publications which are actually needed and useful.

LEGISLATION

The Environment Council Act

ANNUAL REPORTS

Sixth Annual Report, 1976.

Seventh Annual Report, 1977.

Eighth Annual Report, 1978. (ECA79-AR)

Annual Report, 1979. (ECA80-AR)

Annual Report, 1980. (ECA81-AR)

Annual Report, 1981. (ECA82-AR)

PUBLICATIONS RELATED TO PUBLIC HEARINGS

The Impact on the Environment of Surface Mining in Alberta, December 1971 and January 1972.

Report and Recommendations. 1972.

The Conservation of Historical and Archaeological Resources in Alberta, May and June 1972.

Information Bulletin:

The Conservation of Historical and Archaeological Resources in Alberta. Prepared by the Public Advisory Committee on the Conservation of Historical and Archaeological Resources, March 1972.

Report and Recommendations. June 1973.

The Environmental Effects of the Operation of Sulphur Extraction Gas Plants in Alberta, October 1972.

Report and Recommendations. June 1973.

Land Use and Resource Development in the Eastern Slopes, June and July 1973.

Information Bulletins:

Oldman River Drainage Basin. Prepared by: The Oldman River Regional Planning Commission, March 1973.

Bow River Watershed Basin. Prepared by: The Calgary Regional Planning Commission, May 1973.

Smoky River Drainage Basin. Prepared by: The Peace River Regional Planning Commission, May 1973.

Athabasca—Yellowhead Area. Prepared by: Alberta Department of Municipal Affairs, May 1973.

Report of the Science Advisory Ad Hoc Committee. 1973.

Interim Reports:

Commercial Tourist Development Proposals. E.C.A. document, 1974.

Oldman River Basin. E.C.A. document, 1974.

Bow River Basin. E.C.A. document, 1974.

North Saskatchewan and Red Deer River Basins. E.C.A. document, August 1974.

Athabasca River Basin. E.C.A. document, August 1974.

Smoky River Basin. E.C.A. document, September 1974.

Report and Recommendations. September 1974.

The Restoration of Water Levels in the Peace-Athabasca Delta, September and October 1973.

Information Bulletins:

The Proposed Peace-Athabasca Control Structure: Saskatchewan Assessment. Prepared by the Saskatchewan Department of the Environment, 1973.

Report and Recommendations. September 1974.

The Use of Pesticides and Herbicides in Alberta, October and November 1974, January to April 1975.

Information Bulletins:

Terms of Reference, E.C.A. document, September 1974.

Biocide Use in Alberta, Part I: Introduction and Registration. Prepared by: Science Advisory Ad Hoc Committee on Biocides, April 1974.

Biocide Use in Alberta, Part 2: The Use of Fungicides in Alberta. Prepared by: Science Advisory Ad Hoc Committee on Biocides, April 1974.

Biocide Use in Alberta, Part 3: The Use of Herbicides in Alberta. Prepared by: Science Advisory Ad Hoc Committee on Biocides, April 1974.

Biocide Use in Alberta, Part 4: The Use of Insecticides in Alberta. Prepared by: Science Advisory Ad Hoc Committee on Biocides, April 1974.

Biocide Use in Alberta, Part 5: The Use of Vertebrate Poisons in Alberta. Prepared by the Science Advisory Ad Hoc Committee on Biocides, April 1974.

The Effects of Pesticide Use on Productivity and Health in Alberta. Prepared by: McAllister Environmental Services, April 1974.

Report and Recommendations. February 1976.

Water Management and Flood Control in the Paddle River Basin, January 1975.

Report and Recommendations. March 1975.

The Environmental Effects of Residential Development in the Leduc/International Airport Area, June 1975.

Information Bulletins:

Compatible Land Use in the Vicinity of the Edmonton International Airport. Prepared by: Canadian Air Transportation Administration, Western Region, April 1975.

Environmental Impact Assessment of Residential Development in the Leduc/International Airport Area. Prepared by: Lombard North Group for Alberta Environment, May 1975.

Report and Recommendations. October 1975.

The Flow Regulation of the Red Deer River, December 1975.

Information Bulletins:

Background Data. Prepared by: Alberta Environment, Planning Division, February 1974.

Main Report. Prepared by: Alberta Environment, Planning Division, June 1975.

Red Deer River Flow Regulation Proposal - An Assessment. Prepared by: Science Advisory Committee, July 1975.

Erosion of Land in Northwestern Alberta, January 1976.

Information Bulletins:

Water-Induced Erosion on Privately Owned Agricultural Lands in the Peace River Region: An Institutional and Legislative Analysis. Prepared by: W.E. Phillips; D. De Pape; and L.R. Brook, 1975.

Erosion of Land in the Peace River Region. Prepared by: The Peace River Regional Planning Commission, December 1975.

Erosion of Land in Northwestern Alberta: A Summary of Provincial Government Policies and Programs. Prepared by the Inter-departmental Task Force, December 1979.

Anthropogenic Erosion, Swan Hills, Alberta. Prepared by: Jean G. Lengelle, January 1976. (2nd edition)

Report and Recommendations. November 1976.

Continued Public Hearings into the Flow Regulation of the Red Deer River, March 1977.

Information Bulletins:

Terms of Reference and Background Information. E.C.A. document, December 1976.

Red Deer River Basin. Preliminary Planning Report on Potential Damsites Upstream from Sundre. Prepared by: Alberta Environment, Planning Division, September 1976.

Red Deer River: Today and Tomorrow. A Management Statement. Prepared by: Alberta Environment, Planning Division, December 1976.

An Assessment of Alternatives to a Dam on the Red Deer River. Prepared by: Alberta Environment, Planning Division, December 1976.

Report and Recommendations. June 1977.

Environmental Effects of Forestry Operations in Alberta, February and March 1978.

Information Bulletins:

Terms of Reference and Background Information. E.C.A. document, September 1977.

The Environmental Effects of Timber Production in Alberta: An Overview. Prepared by: D. De Pape and R. Collins for the Science Advisory Committee on Forestry, August 1977.

The Environmental Effects of Timber Production in Alberta: Institutional and Legislative Analysis. Prepared by: D. De Pape and W.E. Phillips for the Science Advisory Committee on Forestry, August 1977

Potential for Biomass Energy Production in Alberta Based on Timber Resources. Prepared by: P.L. Richards, consultant, 1977.

Forest Utilization and its Environmental Effects in Alberta. Prepared by: W.R. Hanson, consultant, 1973. (updated)

The Environmental Effects of Timber Harvesting in Alberta: A Summary. Prepared by: C.D. Schultz and Company Limited, 1973.

Perspectives I: The Forestry Industry in the Peace River Region of Alberta. Prepared by: The Peace River Regional Planning Commission, September 1977.

Perspectives II: The Forestry Industry in Alberta. Contributions by the Alberta Forest Service, Alberta Department of Energy and Natural Resources and the Canadian Forest Service of the Federal Department of the Environment, November 1977.

Perspectives III: Fish and Wildlife Aspects of the Environmental Effects of Forestry Operations in Alberta. Prepared by: The Fish and Wildlife Division of the Alberta Department of Recreation, Parks and Wildlife, October 1977.

Forest Recreation in Alberta. E.C.A. document, March 1978.

Report and Recommendations. February 1979. (ECA79-13/RR)

Management of Water Resources within the Oldman River Basin, November 1978.

Information Bulletin:

Terms of Reference and Background Information. E.C.A. document, September 1978. (ECA78-14/IB1)

Report and Recommendations. August 1979. (ECA79-14/RR)

The Management and Disposal of Hazardous Waste, May and June 1980.

Information Bulletins:

Background Information for the Public Hearings on the Management and Disposal of Hazardous Waste. E.C.A. document, prepared by John Lilley, January 1980.(ECA80-15/IB1)

The Administration and Regulation of Hazardous Waste for the Public Hearings on the Management and Disposal of Hazardous Waste. E.C.A. document, prepared by T.J. Cottrell, January 1980. (ECA80-15/IB2)

Report and Recommendations. December 1980. (ECA80-15/RR)

Noise in Alberta, Spring/Summer 1981.

Brochures:

Noise: Transportation Noise. E.C.A. document prepared by M.E. Gordon, September 1980.

Noise: Planning Considerations. E.C.A. document prepared by M.E. Gordon, September 1980.

Noise Around the Home. E.C.A. document prepared by T. Cottrell, December 1980.

Information Bulletins:

Administration and Regulation of Noise in Alberta. E.C.A. document prepared by M.E. Gordon, December 1980. (ECA80-16/IB1)

Noise in the Workplace. Prepared by: John Throckmorton, Alberta Workers' Health, Safety and Compensation, Occupational Health and Safety Division, January 1981. (ECA80-16/IB2)

Economic Aspects of Noise in Alberta. Prepared by: K.R. Wiens and J.R. Kinley, InterGroup Consulting Economists Limited, September 1980. (ECA80-16/IB3)

Noise in Alberta. E.C.A. document prepared by T. Cottrell, December 1980. (ECA80-16/IB4)

Noise is a Health Hazard. Prepared by: John Throckmorton, Alberta Workers' Health, Safety and Compensation, December 1980. (ECA80-16/IB5)

Report and Recommendations. July 1982. (ECA82-16/RR)

Maintaining and Expanding the Agricultural Land Base in Alberta, Pending

Information Bulletins:

Factors Affecting Summerfallow Acreage in Alberta. Prepared by: Marv Anderson and Associates Limited, August 1981. (ECA81-17/IB1)

Factors Affecting Summerfallow Acreage in Alberta: Summary. E.C.A. document prepared by Michael L. Kelly, August 1981. (ECA81-17/IB2)

The Agricultural Land Base in Alberta. E.C.A. document prepared by P.S. Thompson, August 1981. (ECA81-17/IB3)

The Agricultural Land Base in Alberta: Summary. E.C.A. document prepared by P.S. Thompson, November 1981. (ECA81-17/IB7)

Agricultural Land and Land Use Planning in Alberta: A Review of Planning Legislation and Practices. E.C.A. document prepared by M.E. Gordon, October 1981. (ECA81-17/IB4)

Agricultural Land and Land Use Planning in Alberta: Summary and Issues. E.C.A. document prepared by M.E. Gordon, November 1981. (ECA81-17/IB6)

Agriculture and the Environment. Prepared by: Kim Sanderson, November 1981. (ECA81-17/IB5)

Agriculture and the Environment: Summary. Prepared by: Kim Sanderson, March 1982. (ECA82-17/IB14)

Urbanization of Agricultural Land. E.C.A. document prepared by P.S. Thompson, December 1981. (ECA81-17/IB10)

Urbanization of Agricultural Land: Summary. E.C.A. document prepared by P.S. Thompson, December 1981. (ECA81-17/IB11)

Rural Subdivision in the Edmonton, Battle River, Red Deer, and Calgary Regional Planning Commissions, 1977 to 1979. E.C.A. document prepared by P.S. Thompson, February 1982. (ECA81-17/IB12)

Irrigation Agriculture in Alberta. E.C.A. document, March 1982. (ECA81-17/IB8)

Irrigation Agriculture in Alberta: Summary. Prepared by: Kim Sanderson, March 1982. (ECA81-17/IB9)

Dryland Salinity in Alberta. E.C.A. document prepared by John Lilley, March 1982. (ECA82-17/IB13)

Options for Protecting Agricultural Land. E.C.A. document prepared by M.E. Gordon, April 1982. (ECA82-17/IB15)

Soil Fertility and Land Productivity in Alberta. Prepared by: W.B. McGill, July 1982. (ECA82-17/IB16)

Fisheries and Wildlife Resources and the Agricultural Land Base in Alberta. Prepared by: William M. Glasgow, July 1982. (ECA82-17/IB17)

Economics of Agriculture in Alberta: Selected Issues. E.C.A. document prepared by Michael L. Kelly and Ellen Moreau, July 1982. (ECA82-17/IB19)

A Summary of the Economics of Agriculture in Alberta: Selected Issues. E.C.A. document prepared by Michael L. Kelly, July 1982. (ECA82-17/IB20)

An Analysis of Legislation Affecting Agricultural Land in Alberta. E.C.A. document prepared by John Lilley, July 1982. (ECA82-17/IB21)

Soil Fertility, Land Productivity and Dryland Salinity in Alberta: Summary. E.C.A. document prepared by Kim Sanderson, September 1982. (ECA82-17/IB22)

Agriculture and Public Land Management in Alberta. Prepared by: M.C. Taylor and K.R. Leggat, August 1982. (ECA82-17/IB23)

Greenhouse Production in Alberta. E.C.A. document prepared by Kim Sanderson, September 1982. (ECA82-17/IB24)

Maintaining and Expanding the Agricultural Land Base in Alberta Terms of Reference and Background Information. E.C.A. document prepared by P. S. Thompson, July 1982. (ECA82-17/IB18)

The Impacts of Linear Developments, Resource Extraction, and Industry on the Agricultural Land Base. E.C.A. document prepared by Calvin Webb, October 1982. (ECA82-17/IB25)

The Impacts of Linear Developments, Resource Extraction, and Industry on the Agricultural Land Base: Summary. E.C.A. document prepared by Calvin Webb, October 1982. (ECA82-17/IB26)

Research and Agricultural Productivity. Prepared by Marv Anderson and Associates Ltd. in co-operation with Alberta Agriculture, September 1982. (ECA82-17/IB29)

SPECIAL REPORTS

Review of Interaction Between Migratory Birds and Athabasca Oil Sands Tailings Ponds. Report and Recommendations. E.C.A. document, September 1975.

The Transformation of Agricultural Land to Urban Use. Recommendations of the Environment Conservation Authority. E.C.A. document, January 1976.

Review of Coal Exploration Policies and Programs in the Eastern Slopes of Alberta. Report and Recommendations. E.C.A. document, January 1976.

Economic Viability of Increased Beef Feeding in Alberta. Prepared by: Meat Industry Research Services Limited, 1979. (ECA79-OP/2)

Management of Groundwater Resources in Alberta. Summary of a report prepared by Hydrological Consultants Ltd., 1979. (ECA79-OP/3)

Noise and the Human Environment. Edited by: H.W. Jones.

Volume I, December 1979. (ECA79-SP/1 (v. 1/2))
Volume II, March 1980. (ECA79-SP/1 (v. 2/2))

A Report to the Environment Council of Alberta Regarding Health Complaints of Families Living in the Pincher Creek – Waterton, Alberta Area. Prepared by: Dr. E.E. McCoy, October 1980. Revised November 1980. (ECA80-SP/1)

Risks Associated with the Transportation to Treatment of Hazardous Waste Substances. Prepared by: F.G. Bercha and Associates Limited, December 1980.

Phase I. (ECA80-SP/2 (v. 1/2))
Phase II. (ECA80-SP/2 (v. 2/2))

Legal Aspects of Hazardous Waste Management. Prepared by: A.R. Lucas, January 1981. (ECA81-SP/1)

Public Perceptions of the Environment in Alberta. Prepared by: MIR Information Research Ltd., January 1981. (ECA81-SP/2)

STAFF REPORTS

Selenium, Animal Health and Sour Gas Plants. Prepared by: W.R. MacDonald and R.F. Klemm, September 1973.

The Carseland Cominco/C.I.L. Chemical Fertilizer Project. Prepared by R.E. Rogers, September 1975. (Includes Recommendations of the Environment Conservation Authority.)

Commercial Supersonic Air Transportation in Alberta: A Preliminary Analysis of Environmental Impact Information. Prepared by: R.E. Rogers, April 1976.

Health Effects from Kraft (Sulphate) Pulp Mill Operations. Prepared by: M.P.G. Hawkes, September 1976.

Biocides and Birds. Prepared by: R.E. Rogers, October 1976.

The Camrose-Ryley Project Proposal (1975). A Preliminary Assessment of the Surface Reclamation Potential on the Dodds-Roundhill Coalfield. Prepared by: R.F. Laidlaw, April 1977.

A Survey of Concerns Regarding Groundwater Resources in Alberta. Prepared by: M.E. Gordon, February 1981. (ECA81-ST/1)

Attitudes Toward the Environment: A Comparison of Six Surveys Spanning Six Years. Prepared by: Michael L. Kelly, February 1982. (ECA82-ST/2)

CONFERENCES AND MEETINGS

Involvement and Environment: Proceedings of the Canadian Conference on Public Participation. Banff, Alberta, October 1977.

Volume 1, September 1978. (ECA78-CM/1(v.1/2))
Volume 2, May 1979. (ECA78-CM/1(v.2/2))

Where is Public Participation Going? An Annotated Bibliography Focusing on Canadian Experience. Prepared for the National Workshop on Public Participation in Environmental Decision-Making, Banff, Alberta, 1979. Edited by: W.R. Derrick Sewell. (ECA79-CM/2)

Public Participation in Environmental Decision Making: Strategies for Change. Proceedings of a National Workshop, Banff, Alberta, 1979. Edited by: Barry Sadler. (ECA80-CM/1)

The Viability and Livability of Small Urban Centres. Edited by Frank Jankunis and Barry Sadler. (ECA80-CM/2)

Reactions to the Public Participation Workshop, March 5, 1981. Prepared by: Alistair D. Crerar, May 1981. (ECA81-CM/1)

PUBLIC ADVISORY COMMITTEE ON THE ENVIRONMENT

Brochure:

Public Advisory Committees to the Environment Council of Alberta. E.C.A. document. December 1982.

Annual Meetings and Resolutions:

Proceedings of the Ninth Annual Meeting, 1979. (ECA80-PA/AR)

Proceedings of the 1980 Annual Joint Meeting. (ECA81-PA/AR)

Proceedings of the 1981 Annual Joint Meeting. (ECA82-PA/AR)

1978 Resolutions Passed at the Eighth Annual Joint Meeting.

1979 Resolutions Passed at the Ninth Annual Joint Meeting.

1980 Resolutions Passed at the Tenth Annual Joint Meeting. (ECA81-PA/1)

Roles Document: Public Advisory Committee on the Environment. September 1978. (Revised November 1980.) (ECA79-PA/3)

Public Advisory Committee on Environmental Education: Proceedings of the First Alberta Conference on Environmental Education, May 1974. Report and Recommendations. 1974.

Report of the Public Advisory Committee on Environmental Education to the Environment Conservation Authority: Recommendations from the First Alberta Conference on Environmental Education. 1974.

SCIENCE ADVISORY COMMITTEE

Annual Reports:

Sixth Annual Report, 1977.

Seventh Annual Report, 1978. (SAC79-AR)

Eighth Annual Report, 1979. (SAC80-AR)

Occasional Papers:

Trace Elements in Coal: a Review. Prepared by: L.V Hills and W. Jones, March 1981. (ECA81-SA/1)

Appendix F

Location of Information Centres

Location of Information Centres

Banff

The Banff Centre
Box 1020
Banff, Alberta
T0L 0C0

Blairmore

Blairmore Municipal Library
Blairmore, Alberta
T0K 0E0

Bonnyville

Bonnyville Municipal Library
Box 1438
Bonnyville, Alberta
T0A 0L0

Brooks

Brooks Public Library
Box 1149
Brooks, Alberta
T0J 0J0

Calgary

Calgary Public Library
Business and Science
616 McLeod Trail SE
Calgary, Alberta
T2G 2M2

Calgary Regional Planning
Commission
4303 - 11 Street SE
Calgary, Alberta
T2G 4X1

Collections Room
Department of Geography
University of Calgary
2920 - 24 Avenue NW
Calgary, Alberta
T2N 1N4

Environmental Design Unit
8th Floor, Library Tower
University of Calgary
2920 - 24 Avenue NW
Calgary, Alberta
T2N 1N4

Mount Royal College
4825 Richard Rd SW
Calgary, Alberta
T3E 6K6

Resource Centre Office
Faculty of Environmental Design
Room 1003A Earth Science Building
University of Calgary
2920 - 24 Avenue NW
Calgary, Alberta
T2N 1N4

Camrose

Camrose Public Library
4863 - 50 Street
Camrose, Alberta
T4V 1P6

Canmore

Canmore Public Library
Box 460
Canmore, Alberta
T0L 0M0

Carstairs

Carstairs Library
Box 128
Carstairs, Alberta
T0M 0N0

Coronation

Coronation Community Library
Coronation School
Coronation, Alberta
T0K 1C0

Drumheller

Drumheller Public Library
Box 1599
Drumheller, Alberta
T0J 0Y0

Edmonton

Alberta Environment Library
14th Floor, Oxbridge Place
9820 - 106 Street
Edmonton, Alberta
T5K 2J6

Alberta Legislature Library
Room 216 Legislature Building
Edmonton, Alberta
T5K 2B6

Edmonton Public Library
Government Information Division
7 Winston Churchill Square
Edmonton, Alberta
T5J 2V4

Edmonton Regional Planning
Commission Library
602, 10025 - 106 Street
Edmonton, Alberta
T5J 1G6

Government Publications
University of Alberta Library
Edmonton, Alberta
T6G 2J8

Edson

Edson Public Library
Box 249
Edson, Alberta
T0E 0P0

Fort McMurray

Fort McMurray
10012 Franklin Avenue
Fort McMurray, Alberta
T9H 2K6

Grande Prairie

Grande Prairie Public Library
10032 - 100 Avenue
Grande Prairie, Alberta
T8V 0V3

Peace River Regional Planning
Commission
Resource Centre
10104 - 101 Avenue
Grande Prairie, Alberta
T8V 0Y3

High Prairie

High Prairie Municipal Library
Box 397
High Prairie, Alberta
T0G 1E0

Hinton

Hinton Municipal Library
Box 818
Hinton, Alberta

Lacombe

Lacombe Public Library
Lacombe, Alberta
T0C 1S0

Lethbridge

Buchanan Resource Centre
Lethbridge Community College
Lethbridge, Alberta
T1K 1L6

Government Documents Office
University of Lethbridge Library
Lethbridge, Alberta
T1K 3M4

Lethbridge Public Library
810 - 5 Avenue S
Lethbridge, Alberta
T1J 4C4

Medicine Hat

Medicine Hat Public Library
414 - 1 Street SE
Medicine Hat, Alberta
T1A 0A8

Olds

Olds Municipal Library
Box 968
Olds, Alberta
T0M 1P0

Peace River

Peace River Municipal Library
Box 2100
Peace River, Alberta
T0H 2X0

Red Deer

Red Deer College Library
Special Projects Librarian
Box 5005
Red Deer, Alberta
T4N 5H5

Red Deer Regional Planning
Commission Library
Box 5002
Red Deer, Alberta
T4N 5Y5

Sherwood Park

County of Strathcona
Municipal Library
Government Documents
Section
2001 Sherwood Drive
Sherwood Park, Alberta
T8A 3J4

Slave Lake

Roland Michener High School
Library
Box 788
Slave Lake, Alberta
T0G 2A0

Spruce Grove

Spruce Grove Public Library
Box 2759
Spruce Grove, Alberta
T0E 2C0

Vegreville

Vegreville Public Library
Box 129
Vegreville, Alberta
T0B 4L0

Vermilion

Lakeland College Library
Vermilion, Alberta
T0B 4M0

Vermilion Public Library
Box 476
Vermilion, Alberta
T0B 4M0

Wetaskiwin

Battle River Regional Planning
Commission Library
5014 - 48 Avenue
Wetaskiwin, Alberta
T9A 0M9

Wetaskiwin Public Library
4906 - 51 Street
Wetaskiwin, Alberta
T9A 2E9

Westlock

Westlock Municipal Library
Box 1198
Westlock, Alberta
T0G 2L0

Whitecourt

Whitecourt Public Library
Box 150
Whitecourt, Alberta
T0E 2L0

Appendix G

Distribution of Proceedings

Distribution of Proceedings

A complete set of the proceedings of each public hearing we conduct will be available for use in the following ECA information centres. Proceedings and original copies of briefs may also be viewed at our own library.

Battle River Regional Planning
Commission Library
5014 - 40 Avenue
Wetaskiwin, Alberta
T9A 0M9

Brooks Public Library
Box 1149
Brooks, Alberta
T0J 0J0

Buchanan Resource Centre
Lethbridge Community College
Lethbridge, Alberta
T1K 1L6

Calgary Public Library
Business and Science
616 McLeod Trail SE
Calgary, Alberta
T2G 2M2

Camrose Public Library
4863 - 50 Street
Camrose, Alberta
T4V 1P6

Coleman Municipal Library
Box 100
Coleman, Alberta
T0K 0M0

Collections Room
Department of Geography
University of Calgary
2920 - 24 Avenue NW
Calgary, Alberta
T2N 1N4

Drumheller Public Library
Box 1599
Drumheller, Alberta
T0J 0Y0

Edmonton Public Library
Government Information Division
7 Winston Churchill Square
Edmonton, Alberta
T5J 2V4

Environmental Design Unit
8th Floor, Library Tower
University of Calgary
2920 - 24 Avenue NW
Calgary, Alberta
T2N 1N4

Fort McMurray Public Library
10012 Franklin Avenue
Fort McMurray, Alberta
T9H 2K6

Government Documents Office
University of Lethbridge Library
Lethbridge, Alberta
T1K 3M4

Government Publications
The Library
University of Alberta
Edmonton, Alberta
T6G 2J8

Grande Prairie Public Library
10032 - 100 Avenue
Grande Prairie, Alberta
T8V 0V3

High Prairie Municipal Library
Box 397
High Prairie, Alberta
T0G 1E0

Lakeland College Library
Vermilion, Alberta
T0B 4M0

Lethbridge Public Library
810 - 5th Avenue S
Lethbridge, Alberta
T1J 4C4

Alberta Environment Library
14th Floor, Oxbridge Place
9820 - 106 Street
Edmonton, Alberta
T5K 2J6

Calgary Regional Planning
Commission Library
4303 - 11 Street SE
Calgary, Alberta
T2G 4X1

Roland Michener High School Library
414 - 1 Street SE
Medicine Hat, Alberta
T1A 0A8

Reader's Services Librarian
Red Deer College Library
Box 5005
Red Deer, Alberta
T4N 5H5

Red Deer Public Library
4818 - 49 Street
Red Deer, Alberta
T4N 1T8

Red Deer Regional Planning
Commission Library
PO Box 5002
Red Deer, Alberta
T4N 5Y5

Resource Centre
Peace River Regional Planning
Commission
10104 - 101 Avenue
Grande Prairie, Alberta
T0V 0Y3

Resource Centre Office
Faculty of Environmental Design
Room 1003A,
Earth Science Building
University of Calgary
Calgary, Alberta
T2N 1N4

The Banff Centre
Box 1020
Banff, Alberta
T0L 0C0

The Library
Mount Royal College
4825 Richard Road SW
Calgary, Alberta
T3E 6K6

Vermilion Public Library
Box 476
Vermilion, Alberta
T0B 4M0

Wetaskiwin Public Library
4906 - 51 Street
Wetaskiwin, Alberta
T9A 2E9

Whitecourt Public Library
PO Box 150
Whitecourt, Alberta
T0E 2L0